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PREFACE.

The London Journal of Medicine was established for the two-fold purpose of diffusing scientific and practical knowledge among the profession, and of promoting true "medical reform", by striving to inculcate, by precept and example, feelings of brotherhood, and generous principles of action. It has not been part of our plan to write elaborate exposures of the practices of quacks, or of the systems of quackery which are now most in vogue: we have believed that we were best guarding the domains of medicine from the farther intrusions of homœopathy, globulism, hydropathy, mesmerism, and other similar scandals, by advocating the necessity of students having their minds trained to think and reason, before they are launched upon their career of medical study. A good preliminary education, combined with integrity, are the only defences which any man can have against lapsing into quackery, or indeed into any error or immorality. Remembering the high ends for which the work was established, we have diligently and impartially collected information from every source, whence it could be obtained; carefully, and we trust successfully, striving to keep ourselves free from party influence, or personal bias.

In several respects, this volume surpasses its predecessor; which, from the prevailing cholera epidemic, had less variety. Greater attention and scope have been given to the Diseases of Young Children; and in this, as well as in other respects, the Digest of the Journals has been improved. The Reports of Societies have been more condensed; and, in this way, space has

been gained for Dr. Henry's valuable Classified Catalogues of the Papers in the British and Foreign Journals.

The experience of the last two years, and ampler resources, enable us to announce that two very important improvements are to be introduced into the new volume. The one is an extension of the range of the Bibliographical Record, so as to include notices of all the medical books, of any note, which appear in France, Germany, and other Foreign countries. The other is the introduction of a new department into the JOURNAL, to be entitled THE HOSPITALS OF LONDON; in which we propose to give, to the best of our ability, the movement of epidemics; the general news and statistics of Metropolitan Hospitals, Dispensaries, and Asylums, so far as they can be obtained; combined with the marrow of the clinical teaching of the physicians and surgeons of these institutions. If we are enabled to carry out our scheme with even one half of the completeness which we ultimately hope to attain, we shall be able to excavate and arrange such a mass of instructive clinical experience, as has never yet been laid before the profession.

The following is a list of the authors of the Original Articles which have appeared during the year now closed:—

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ORIGINAL COMMUNICATIONS.

ON THE USE AND ADMINISTRATION OF TANNIC ACID IN VARIOUS DISEASES.

By S. SCOTT ALISON, M.D., Licentiate of the Royal College of Physicians of London.

DURING the last six years, I have been in the constant practice of prescribing TANNIC ACID, usually termed Tannin, in various diseases. I was led to its employment, by a knowledge of the potency of many substances into whose composition it largely entered. It recommended itself likewise by its bitter and intensely styptic taste. Its remarkable chemical effect upon gelatine, and the alleged wholesomeness of the tan-yard, in some measure also contributed to cause me to make trial of this agent. In all the diseases, and, with two or three exceptions, in all examples of the diseases in which I have employed it, marked advantage has attended or followed its use. I can conscientiously say, that, on the whole, the results have been such, in respect to promptitude, certainty, convenience, and safety, as I have not procured from any other remedial agent. This testimony in its favour is given only after due analysis, and deliberation; and I am so convinced of its correctness, that I have decided upon continuing to consider and to use Tannic Acid, as one of the most efficacious and valuable articles in the stores of the pharmaceutist. It is to record the grounds of this decision, and to point out the conditions and circumstances under which it is useful, as well as to indicate the most advantageous mode of employing it, that the present communication is designed. The facts to be related, it is thought, possess some value, and appear to justify a more extensive and general employment of this remedy, than it has yet obtained.

The remarks are arranged under the following heads:

I. HISTORY AND PROPERTIES OF TANNIC ACID.

II. ITS PHYSIOLOGICAL AND THERAPEUTICAL EFFECTS.

III. MODE OF ADMINISTRATION.

I. HISTORY AND PROPERTIES OF TANNIC ACID. Tannic Acid has been received into the human stomach since the first days of medical

science, but only as an ingredient in numerous bitter, astringent, and aromatic medicines, and in some vegetable articles of diet. Unknown as a separate proximate principle, it doubtless contributed much to the efficacy of the medicines, into the composition of which it entered. In these substances, Tannic Acid is combined with other ingredients, some inert, some possessing properties different from those of Tannic Acid, and others closely resembling it in their effects. The first ingredients must be useless, and would unnecessarily and inconveniently increase bulk at least, in some forms for administration; the second would, in most instances, injuriously modify or interfere with the action of the Tannic Acid; and the third, though auxiliary and useful, could seldom be present in that proportion which would best suit the exigencies of different diseases, ages, complications, and stages.

Since the discovery of Tannic Acid as a distinct vegetable proximate principle, many years ago, according to Dr. Murray,[1] by Seguin, and particularly since the researches and experiments of Pelouze, this agent, in its pure form, has been employed occasionally, to a limited extent, in the practice of physic. Dr. Burns,[2] of Glasgow, mentions, in his work on Midwifery, that it has been recommended in chlorosis in doses of *one hundred grains* daily! Dr. Pereira[3] says: "given to dogs to the extent of twelve grains, it caused constipation. In doses of two and a half grains, it produced constipation in the human subject." Dr. Todd[4] has recently recommended it as a powerful astringent; and Dr. Garrod[5] has lately given some account of its employment. I mentioned its utility in goître[6] connected with anæmia, in a paper on that subject. I have reason to believe that it is employed by several practitioners in London; and I have been informed by an eminent pharmaceutist, that it is now more frequently prescribed than formerly. For years past, I have recommended it to the notice of my professional friends. Nevertheless, there can be no doubt, that the use of Tannic Acid by the profession is not so general, as with advantage it might be. Even those who employ it, do so, I believe, in only a very few diseases; and in these, for the most part at least, merely as an astringent. Few practical hints are to be found in medical works, for the administration or application of this potent medicine. While Dr. Pereira[7] informs us, that twelve grains produced dryness of the mucous membrane of the bowels, and a collection of hard fæces in the colon, and that it may be given in doses of three grains, we learn from Dr. Burns (as already stated), that some have recommended it in doses of a hundred grains daily. It therefore appears, that a few practical suggestions on the subject are yet a desideratum.

Tannic Acid exists in a great number of vegetable productions. It is present in tea, and in many culinary vegetables. It is the combination of the Tannic Acid in these articles of diet with the peroxyde of iron, which causes the dark colour of the alvine evacuations of those taking

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[1] Murray's System of Materia Medica. Fifth edition, p. 321.
[2] Burns' Principles of Midwifery. Seventh edition, p. 147.
[3] Pereira's Elements of Materia Medica, p. 736.
[4] Medical Gazette, 1849.
[5] Lancet, 1849.
[6] London Journal of Medicine, June 1849.
[7] Pereira. Op. cit. p. 736.

the salts of that metal. And it is owing to the absence of this acid in the aliment, that iron, when exhibited to children fed solely on milk diet, fails to blacken their evacuations. The articles which contain Tannic Acid in greatest abundance are certain medicinal substances,—catechu, kino, galls, and oak-bark. Numerous barks likewise contain Tannic Acid in large quantity; these are the chestnut, the willow, the ash, the sycamore, the larch, the birch, the blackthorn, the hazel, and many others, of all which it is the "true principle of astringency."[1] It is chiefly prepared from gall-nuts, (which afford forty-five or fifty per cent.)

Tannic Acid is of a lively yellow, or canary-colour, inodorous, somewhat bitter, and intensely styptic to the taste. It is soluble to a very considerable extent in water, and in alcohol, not highly rectified. Its solution slightly reddens litmus. The alkaline carbonates it decomposes; and with most metallic solutions it throws down precipitates, which are tannates of their respective bases. Dissolved in water, if not exposed to the atmosphere, it may be long preserved without change; but if otherwise, it soon decomposes, absorbing oxygen, becoming turbid, and depositing gallic acid.[2] Tannic Acid is by no means expensive. It may be had, in a pure form, for less than three shillings per ounce.

II. Physiological and Therapeutical Effects of Tannic Acid.

1. As an Astringent, I have found Tannic Acid exceedingly efficacious, certainly as much so as any other agent, vegetable or mineral, that I have ever employed. It has equalled the salts of lead, copper, and zinc, without producing any of those poisonous effects which are liable to follow the free use of the salts of the first two metals.

Internal Use. In the *chronic bronchial catarrh* of weakly and elderly persons, unconnected with disease of the heart or great blood-vessels, and attended with copious and debilitating expectoration, the administration of Tannic Acid by the mouth, in doses of one, two, and three grains, two or three times daily, has greatly and gradually abated the secretion, relieved the frequent cough, and improved the strength of the patient. In the second stage of *pulmonary consumption*, viz., that of softening, when bronchial catarrh has been present to a large extent, weakening the patient, causing frequent cough, and disturbing sleep, the same results have followed, and have greatly contributed to the comfort and welfare of the sufferer. But in pulmonary disease, the greatest amount of benefit has obviously been derived when large cavities have been present in the lungs, the walls of which have thrown out large quantities of purulent matter, occasionally mixed with blood. In such cases, the discharge has been effectually controlled, and the rate of tear and wear of the system obviously restrained, without the induction of oppression or other evils.

In *chronic diarrhœa*, which had resisted the ordinary treatment by chalk, opium, and regulated diet, and was not dependent on obstructive disease of the heart or liver, Tannic Acid, in a solid form, has proved

[1] Paris, J. A., M.D., Pharmacologia, p. 151.

[2] Simpson, Professor J. Y., in 1843, recommended gallic acid in menorrhagia. He suggested whether the antihæmorrhagic properties of some of our common astringent drugs, do not depend upon their tannin becoming converted into gallic acid within the body. *Edinburgh Monthly Journal*, July 1843, p. 661.

of surprising efficacy. In cases of severe disease, depending on an irritable weakly mucous membrane, I have not known of one failure; and of those examples connected with chronic inflammation and disorganization of the mucous membrane, only two proved beyond the influence of this remedy. These two cases occurred during the last autumn, while cholera was prevalent; and the disease of the mucous membrane was extensive. The complaint in one of the examples was of long standing, and the patient had been addicted to habits of intemperance. But it was not Tannic Acid only that failed; the salts of copper, iron, lead, and zinc, in large doses, proved to be of no more avail. In this form of disease, Tannic Acid was administered in the form of pill, in combination with opium.

In *leucorrhœa*, unconnected with inflammatory action, I have found Tannic Acid efficacious in restraining the discharge, and in increasing the strength of the patient. The aqueous solution, combined with a small proportion of dilute nitric acid, was the form usually employed in these examples of disease. In *menorrhagia*, not dependent on a plethoric state of the system, or on local congestion, it was also serviceable, administered in the same form.

The excessive *sweating in phthisis*, and in other diseases running on to a fatal termination, has been usefully restrained by the use of Tannic Acid, combined with dilute nitric acid; and the habitual cold damp upon the skin of soft, weakly constitutions has been corrected by the same means. I have had no opportunity of testing the virtues of this remedy in the *hæmorrhagic diathesis;* but I am strongly disposed to believe they would be found very considerable, conjoined with other suitable means. I believe it would prove serviceable in *albuminuria*, dependent on chronic disorganization of the kidney, and not associated with obstructive disease. When the egress of albumen results, as I believe it often does in no small degree, from reduced tone and elasticity in the organ, and is not (as in a great majority of cases) a wholesome outlet necessary for the relief of the circulation, Tannic Acid offers the promise of benefit. Such a case, however, I have not lately met with, and consequently have not had an opportunity of testing the treatment.

Local Application. In the form of aqueous solution, used as a gargle, Tannic Acid has been most useful in correcting relaxation of the throat. Sponginess and hæmorrhage of the gums have been greatly controlled by a lotion of Tannic Acid, and by the application of the dry powder. By this means, loose teeth may be retained for a time, and the impediment to articulation thereby prevented, which would result from their removal.

In *prolapsus ani* I have prescribed Tannic Acid, dissolved in water, as an injection. This remedy is particularly indicated, when the disease is associated with great relaxation of the solids. Applied to *hæmorrhoidal tumours*, free from inflammation, in the form of a fine powder, mixed with lard, it would doubtless prove more efficacious than galls, the usual remedy. It is assuredly due to the Tannic Acid which it contains, that uva ursi proves serviceable in *catarrhus vesicæ*.

In *gonorrhœa*, chronic or about to become such, Tannic Acid, applied externally as a lotion, has proved serviceable. In the latter mode, it has induced no smarting, although the parts have been tender, and

though it has been applied with little intermission for several days. It is as a *local* astringent that Tannic Acid produces the most obvious effects, as Dr. Garrod has remarked.

Of Tannic Acid as an astringent, I have merely further to say, that it is of special excellence, as an external application to the skin, when such a remedy is required. I have found it of extraordinary efficacy, when reduced to a fine powder, mixed with lard, and applied to the skin. The parts soon acquire a healthy aspect; very little of the smarting or pungency is experienced, which so generally results from the use of the salts of alumina, lead, zinc, or copper. I have found it far superior to gallic acid. By way of testing their comparative powers, I lately applied an ointment of gallic acid to one spot of psoriasis, and one of Tannic Acid to another. The strength of both was the same. The spots were of old date, and had resisted much treatment. In the course of two days, the spot to which Tannic Acid had been applied, was all but healthy; that for which gallic acid had been similarly employed, was more inflamed than before. The gallic acid had caused smarting, and brought away the protecting scales. This treatment was adopted merely to test the comparative powers of the two acids, and not as curative practice. Astringents, if they be applied in psoriasis, must be used only as subsidiary to other treatment.

2. As a Peptic ($\pi\epsilon\pi\tau\omega$, coquo), Tannic Acid is very efficacious. This I soon found, while employing it as a pure astringent. Symptoms of dyspepsia disappeared under its use, the appetite increased, flatus and sense of distension were abated at the same time; and, in several instances, the bowels, far from becoming constipated, acquiring a more healthy tone, actually became more free. A lady affected with phthisis, who has been under my care for three years, during which time she has taken Tannic Acid alternately with cod-liver oil, complained, very lately, of loss of appetite while taking the oil. The morning dose of the oil was replaced by Tannic Acid, combined with dilute nitric acid; and the result was a very striking restoration of the appetite. With such obvious improvement in the condition and action of the stomach, it is reasonable to believe, that one of the results is the formation of a more perfect chyle. The action, as a Peptic, is in accordance with the statement of one of the best writers on Materia Medica. Dr. Pereira says, "Administered in moderate doses, they (astringents) promote the appetite, assist digestion," etc.[1]

3. As a Histogenetic, in *promoting the genesis*, and in *improving the quality of the blood*, Tannic Acid, it may be inferred from what has been stated above, would probably prove effective. But that it is really so, I have the evidence of improved complexion, greater fulness of the blood-vessels, increase of strength, buoyancy of spirits, and improved secretions, in numerous examples of anæmic and other diseases, in which this agent has been long employed.

The *formation of structures in the young*, I have reason to believe, is subserved, to a valuable extent, by the long-continued administration of Tannic Acid, in moderate doses. It is nearly six years since I began to prescribe this remedy in cases of curvature of the bones in children,

[1] Pereira. Op. cit., vol. i, p. 80.

with soft shafts and enlarged epiphyses. The number of cases placed under this treatment, while I was Physician to the Northern Dispensary, was considerable; and not a few occurring in private practice were similarly treated. The general health was improved in all. The secretions, in many cases exceedingly offensive, were greatly corrected. In the course of a year or two, an obvious improvement in the shape and form of the bones was manifest. The curve was reduced; and the heads of the bones had lost no small amount of their disproportionate prominence. I have lately seen two or three children, presenting no appearance of having suffered from this affection of the bones, who, some years ago, really were deformed, and who were put under the influence of Tannic Acid, and also, it is true, of suitable regimen. In most of these examples of disease, when they came under my care, the urine contained an undue proportion of lime. This continued to be the case, at least for some time, even under the use of Tannic Acid, though perhaps not to the same extent. If Tannic Acid really possess the power of correcting the tendency to rickets, or of staying the progress of this affection, it cannot be through any astringent action on the kidney arresting the exit of an undue quantity of lime, which is only a sign or consequence of the disease, and not its cause. It must act by invigorating the general health, and by imparting a more healthy character to the formative processes, by virtue of which lime and other mineral ingredients in the blood are more forcibly attracted to, and fixed in, the osseous structure. Further evidence of the power of Tannic Acid to improve the formation of tissues, has been afforded by the increase in the volume and firmness of the soft parts of children placed under its operation, which I have frequently observed.

4. In connexion with HETEROLOGOUS FORMATIONS, Tannic Acid has been largely employed in my practice; and as far as I can judge, and with every wish to be impartial, I believe it has been operative, to a great and valuable extent, in arresting or retarding their growth. Almost every case of incipient tubercular deposit in the lungs, which came under my care, either at the Northern Dispensary or in private practice, some years ago, was treated, at least in part, with Tannic Acid; and I have been agreeably surprised to find that not a few of these very patients are now alive, some apparently not nearer the grave than at that time, and some in really improved health. I was consulted in the case of a young lady, five years ago. The apex of the right lung was solidified with tubercle, and the patient had rapidly deteriorated. Sir James Clarke saw her with me, and Dr. Watson, at a later period, also visited her. Tannic Acid was employed, after the more ordinary practice had been adopted; and though other means have been in use on different occasions, I attribute much of her present health to the acid. That lady's lung is still solidified, the respiration is bronchial, and percussion is absolutely dull; but the general health is equal to that of the other members of the family, and permits of her going abroad.

A young lady from Bow consulted me. She was considerably emaciated, had frequent cough, with much muco-purulent expectoration occasionally mixed with blood; percussion at the left clavicle was dull; the vocal resonance was augmented; the pulse was rapid; there was much sweating; and the patient, in short, was rapidly breaking up. With

counter-irritation, opium, and Tannic Acid combined with dilute nitric acid, very great improvement soon took place. The flesh increased in volume, the cough and expectoration greatly abated, and the respiration became easy. After this, Tannic Acid was made to alternate with cod-liver oil. She mended so much that, without asking my advice on the subject, she married soon after. I saw her subsequently, and found her still improving. That lady is now in fair health, and, I understand, was safely delivered of a fine child some weeks ago.

An elderly single lady lost her brother five years ago. She was deeply afflicted, and became, immediately after this loss, the subject of tubercular deposit in the apex of the right lung. Percussion was very dull over the affected lung, and there was occasional cough; but the chief symptoms were breathlessness, sweating, and rapid pulse. Dr. Watson saw her, along with me, three or four years ago, and recommended dilute nitric acid, etc. I subsequently gave her Tannic Acid, and, with intermissions, she has taken it up to this time, generally in combination with nitric acid. Cod-liver oil has likewise been employed sometimes at one part of the day, while Tannic Acid has been given at another, and sometimes for a week, alternating with the acid. That lady is still under my care. She is very little worse than she was three years ago. The tubercles have softened, but there is no cavity. The chief alteration for the worse, has been a moderate increase of the emaciation, of the cough, and of the expectoration. She is able to walk out, except in bad weather; talks with energy, has a vigorous appetite, and sleeps well. She takes, at present, Tannic Acid in small doses, (for she has a somewhat irritable stomach,) with dilute nitric acid; cod-liver oil is still occasionally employed. She has no occasion for opiates or purgatives.

Mrs. W. had solidified lung, much tenacious muco-purulent expectoration, occasional spitting of bloody fluid, and frequent cough. Small portions of a dark brown substance, apparently separated lung-tissue, were occasionally brought up. They had an extraordinary corrupted fœtor, with something of the odour of sulphuric ether or of naphtha. Counter-irritation and opiates were employed. Tannic Acid, dissolved in infusion of gentian, and combined with dilute nitric acid, was administered, with the result of improving the general health, and of checking the fœtid expectoration.

The deposition of tubercular matter, it is reasonable to believe, may be retarded by the use of a remedy which improves the health both of the solids and fluids of the body. The surrounding lung-tissue may be so beneficially acted on, as to reduce the tendency to inflammation and to disorganization. With respect to malignant heterologous formations, I have had no opportunity of seeing them under the influence of this remedy, except as an external temporary application; but I think it is consistent with what we see in other diseases, to believe that the cells of cancer may be checked or retarded in their growth by its long-continued administration. The normal formation of nutritive processes may receive such an impulse, as effectually to interfere with the almost monopolizing growth of malignant disease. With a more healthy condition of the capillaries, and a more perfect quality of blood, may we not hope for some benefit? It may be allowed, with this view, under such desperate circumstances, to administer a remedy which, if not effectual against the

major evil, will at least improve the general health; and that without the production of any ill consequence, worthy to be called by a higher name than that of inconvenience.

5. As a Nervine of a lasting character, I have found Tannic Acid useful in several cases of nervous debility, languor, and excitability. These distressing conditions have been relieved; and the benefit, in one or two examples, has been permanent. Under the use of moderate doses of this medicine, I have known even the symptoms of weakly organization,—or, as I have thought, of impending softening of the brain, such as flightiness of speech and manner, impatience of attention or of application, hasty judgments, weakness and unstable gait,—to lose not a little of their prominence. It has always, however, been my object to guard against depending on this or any other such remedy, where there has been good reason to suspect the presence of inflammatory action, even in a subdued form. When thus used as a Nervine, Tannic Acid should generally be combined with camphor, hops, or hyoscyamus. The shower-bath has been employed, and the secretions have been attended to, at the same time. Thus exhibited, I believe that Tannic Acid, by improving the natural galvanic battery, if our brain and nerves may be so figuratively designated, will really, in many cases of feeble volition and muscular action, produce not a little of that benefit which has been sanguinely looked for from galvanism and electricity, and which, when obtained, has been so fleeting,—at least in my experience.

III. Mode of Administration of Tannic Acid. For administration, Tannic Acid is well suited. It possesses no great bitterness, is free from odour, and does not induce nausea. A little sugar or syrup will suffice to cover all unpleasantness. It is perfectly safe, and may be continued for months without any evil effect. In moderate doses, it does not reduce the secretions below the healthy standard. It may be administered at all hours,—before, or during, or after meals.

Tannic Acid may be employed alone in the treatment of disease; but it is capable of exercising its virtues harmoniously with other remedies. The use of this medicine does not preclude the employment of iron, cod-liver oil, and other such means; but, on the contrary, I believe it will make them more available to the patient. It may be given at one time of the day, and the other remedies at another; or a week or a fortnight may be given alternately to each medicine. Tannic Acid, moreover, may be advantageously combined at the same moment with other means. It may be prepared with bitters and aromatics, or conjoined with astringent wines.

For diseases of the mouth, Tannic Acid may be dissolved in water: three or four grains to the ounce of water make a strong styptic lotion. It may be reduced to a fine powder, and dusted over the parts. Mr. Morson has prepared a lozenge, which is well adapted for the mouth and throat. Each lozenge contains about half a grain of Tannic Acid. Some have had added to them essence of cayenne, the more to fit them for relaxation of the fauces and glottis. For the stomach, the aqueous solution is well adapted; and, when a pure bitter is required, some infusion, such as that of gentian, may be used instead of water. When it is intended to influence the bowels, Tannic Acid is suitably exhibited

in the form of pill; and as circumstances indicate, in combination with opium or other remedies. If we desire it to enter the circulation, or to act quickly, at a distance from the stomach, on some internal part, the form of solution or powder should be employed. As a styptic for the rectum, uterus, vagina, or urethra, the aqueous solution, used as an injection, will generally prove most serviceable. For local skin diseases, requiring an astringent, Tannic Acid may be advantageously used, either as a lotion, or in the form of ointment. As, however, the application is really effective, it will be well to attend, at the same time, to any requirements that the general system may demand. Reduced to a very fine powder, I have found that Tannic Acid may be inhaled into the lungs and air-tubes. It has produced no irritation or cough, when tolerably well managed. I have not had much experience of it in this form; but I believe that a cautious trial might be made of it in cases of disease of the lungs and air-tubes, in which the local application of a non-irritant styptic is indicated.

The dose of pure Tannic acid must vary according to the circumstances under which it is employed. For urgent disease, such as hæmorrhage from the stomach, bowels, or lungs, five to ten grains should be used every few hours. For chronic fluxes, wherever situated, two or three grains, given twice a day, will generally suffice. When the general improvement of the health is simply desiderated, one or two grains, two or three times daily, are enough, but the remedy should be long continued. For children afflicted with rickets, half a grain to one grain answers well, given night and morning.

Tannic Acid is contra-indicated in hæmorrhages and fluxes, wherever situated, which are only the relieving of an obstructed circulation, or of inflammatory or congestive action. It is, under such circumstances, calculated to do mischief. In obstinate constipation of the bowels, when circumstances render a lax state necessary, Tannic Acid is contra-indicated in large doses, as a general rule. Irritability of stomach and gastritis are liable to be aggravated by Tannic Acid.

Several preparations of Tannic Acid have been carefully prepared, at my suggestion, by Mr. Morson, the eminent pharmaceutist, of Southampton-row. These preparations are the tannates of quinine, cinchonine, alumina, bismuth, and lead. They are all coloured, possess more or less the styptic taste of Tannic Acid, and are inodorous. I have not yet had time to make sufficient trial of them, so as to be enabled to report at present upon their virtues. I shall now only hazard an opinion that they, as well as Tannic Acid itself, will be found, upon full trial, to possess very considerable power, and to form valuable acquisitions to the resources of the physician, wherewith he may render himself more formidable to disease, and still more serviceable to the sick.

Park Street, Grosvenor Square, December 1849.

ILLUSTRATIONS OF DISEASES OF THE NERVOUS SYSTEM.

By WILLIAM H. MADDEN, M.D., Physician to the Torbay Infirmary and Dispensary, etc.

No. I. Ramollissement of Grey Matter of the Medulla Spinalis.

Case. Mr. P., æt. 63, came under my care in August 1838. He was a merchant, and had been constantly engaged in extensive speculations: a man of acute intelligence, resolute will, and excitable passions. He was rather above the average height, and strongly built; and had always been of active habits, both of mind and body. About five years before I first saw him, after dining with some hard drinkers, and fully participating in the depth of their potations, he was attacked with burning pain on the instep of the left foot, which nearly disabled him from walking, but was unaccompanied by any external appearance of inflammation. This feeling continued for some time, and gradually terminated in diminished sensibility of that foot and leg, up to about the middle of the calf. Shortly afterwards, the right foot and leg became similarly affected; and this state continued persistent during the remainder of his life. He always complained of heat in the parts, and stated that, in walking, he felt as if he were treading upon heaps of warm bran.

About a twelvemonth after the above-mentioned occurrences, Mr. P. first perceived that he passed an inordinate quantity of urine; and, at the same time, he was greatly tormented with thirst. He applied for advice, and was informed that he laboured under diabetes. He accordingly submitted to very rigorous discipline, one material item of which was an almost total abstinence from fluids. His urine, carefully examined by several chemists, was found to contain no sugar. Having persevered in this line of treatment for two years without any benefit, he adopted, on the recommendation of Dr. Prout, an entirely different course, living again in the way to which he had been formerly accustomed, *i. e.*, rather generously. Under this system, his general health greatly improved, and the supposed diabetic symptoms gradually wore away.

During the severe frost of January 1838, Mr. P. stood, on one occasion, for some hours on the ice; and, on his return home, found that both his great toes were frost-bitten. The ulcers resulting from this accident healed but very slowly; and for seven weeks he was confined entirely to his bed. I should mention that, for many years, he had been troubled with varicose veins in the legs. Shortly after leaving his bed, Mr. P. drove, on a very cold day, to Roslin, a distance of about six miles from his residence, and sat for some time with the left side of his face to an open window. During this ride, he felt an unusual degree of stiffness of that side of the face; and, when he arrived at his friend's house, found that he was unable to hold anything in his left hand. This did not arise from loss of muscular power, but from the greatly diminished sensibility of the cutaneous textures, which, he now perceived, had extended over the whole of that side of the body, but was most complete in the hand and fingers. There was no distortion of any portion of the face. In this state he continued, notwithstanding the most active

treatment by bleeding, both local and general, blistering of the head and spine, and severe purgation, until about the 11th or 12th of August, when he suddenly perceived a dimness in the vision of both eyes. On the 15th, the sight of the right eye was entirely lost for some hours, but returned again. On the 16th, I saw him, with my friend Dr. J. Renton, and found him in the following state: General health apparently very good. Not the slightest distortion of any features. All ordinary motions performed perfectly, but much feeling of stiffness, and as of a weight in the hands, especially the left. Great, but not total, loss of common sensation, over the whole of the left side of the body. The muscular sense was entire. The eyes presented nothing remarkable, the pupils contracting readily and freely. He could see distant objects more clearly than near ones; and the indistinctness of vision varied much at different times. Taste and smell were perfect. He had no headache, and but little occasional giddiness. He complained much of pain in the back, when driving over rough roads. Cutaneous transpiration was entirely suspended. The appetite was good; the tongue clean; and the bowels regular, and answering easily to medicine. Pulse from 70 to 80, of good strength. A seton was inserted in the neck; the diet was carefully regulated, and means were adopted to improve the state of the capillary cutaneous circulation, which was very feeble. We also made a few (about six) trials with galvanism; but our patient would not persevere in the use of this agent. When first employed, it excited no sensation at all; but subsequently its influence was felt, each time more distinctly.

September 26th. Mr. P. was not so well. He complained much of pain in the left hand and arm, with general uneasiness. Pulse 100, and full. His face wore a contracted and unhealthy aspect He had so strong a prejudice against bleeding, from the effects of former treatment, that all that could be done was to prescribe a purgative and low diet. These means, however, gave great relief, and he was much better during the next two days; though his family observed that his temper, always irritable, was now unusually so.

September 29th. He still complained much of pain, and of a feeling of distension in the left hand. Pulse 90. Tongue clean, and bowels open. During this day, he was much irritated and excited by an accident which happened to one of the members of the family. In the afternoon he had rigors, and was unable to walk; and, when carried to bed, could not turn himself. We were not summoned until the next morning; but his friends administered two purgative pills. During the night, he was very restless, and somewhat delirious.

September 30th. When I saw him, he was lying on his back, with his eyes closed, and brows much contracted. The right hand and arm were in incessant motion, and often carried to the head. Tongue very foul. Pulse 120, full, hard, and bounding. Head hot. Pupils somewhat dilated, but sensible to light. He was easily roused, but lay in a kind of stupor, and did not seem willing to be disturbed. He was very restless, but made no complaint of the head. He was bled largely, until an impression was made upon the pulse; a purgative was administered, to be repeated if the bowels did not act freely. An evaporating lotion was directed to be applied to the head, and warmth to the feet.

October 1*st.* He was very restless and talkative during the night. The bowels were once moved. He refused to take the second dose of medicine, and would not allow the lotion to be applied to the head. The blood drawn was strongly buffed and cupped. The pulse was softer. There was erysipelatous redness of the right thumb and arm, extending nearly to the elbow. Another purgative was ordered, and a lead lotion to the inflamed part. In the evening, the pulse had become harder, and he was again bled. The bowels had been freely opened; the stools were copious, black, and offensive. He was more quiet, and perfectly sensible, making no complaint of pain, except in the inflamed arm. *The sensibility of the feet was found to be greatly increased.*

October 2*nd.* There was no improvement. The urine and fæces were passed involuntarily. He was perfectly sensible when roused; slept much, and wandered occasionally. There was no intolerance of light. The face was frequently flushed, and the temperature of the head exalted; but at times there was great pallor and diminished heat. He died during the night.

Sectio cadaveris, forty-two hours after death. There was little, if any, appearance of decomposition. The scalp and cranium were very thick. The dura mater was somewhat thicker than usual, and more adherent to the subjacent parts. There was a considerable sub-arachnoid effusion; also much bony deposit in the arteries of the brain, which also contained a good deal of air. The base of the brain was extremely vascular, especially about the optic commissure and the locus perforatus, where it had a uniform pink colour. Ths ventricles were much distended with fluid, a considerable quantity of which flowed also from the spinal canal. The fibres of the crura cerebri and pons were unusually distinct. The medulla oblongata presented the same appearance: it was hard, and apparently shrunk in size. The floor of the third ventricle was very soft and pulpy. Both corpora striata were softer than natural, but unaltered in colour. The membranes of the spinal cord were unusually vascular. The cord itself, in the cervical and upper dorsal regions, was of a natural consistence externally; but the centre was almost reduced to a state of fluidity, presenting the appearance of thick cream. This was most particularly remarkable at the part where the cervical plexus comes off. Below, it was harder; but we did not examine the lumbar region.

Remarks. This case possesses many instructive features, and especially illustrates, in a very marked way, the difficulties which, in the present state of our knowledge, beset a consistent interpretation of the phenomena of Diseases of the Nervous System. It appears pretty evident from the history, the course of the symptoms, and the lesion found after death, that the spinal cord was, from the first, the organ at fault. The marks of intra-cranial disease, with the exception of the softening of the floor of the third ventricle, and perhaps the partial ramollissement of the corpora striata, were, in all probability, of quite recent origin, being merely the evidence of the last fatal inflammatory attack. The persistent burning pain in the instep would seem to have been the first indication of central mischief. It was clearly not dependent upon any mere local affection; for, independently of the absence of

all proof of such by any external signs, the fact that this pain terminated in numbness of the whole foot and a considerable part of the leg, and was followed by a similar condition of the other extremity, is quite conclusive. The cause of both must have been identical, and should be sought for in some pathological condition of that organ, from which all the affected parts received their nervous supply. The exact nature of that condition it is, of course, impossible to affirm; but seeing that the exciting cause appears to have been the undue stimulus of excessive drinking, we may not unreasonably conjecture that it was of an inflammatory character. But that it was not of any great extent appears also evident, from the long period during which the paralytic symptoms remained stationary. They did not increase in severity, nor were any other portions of the body invaded; but, on the other hand, they did not in the smallest degree diminish; consequently their cause, whatever that might be, remained still in operation. And here we meet with another proof that that cause was central, in the sudden and alarming increase of anæsthesia, produced by the exposure to severe cold, which constituted the next great step in the development of the nervous symptoms; for these, it will be observed, did not constitute a new set of phenomena, but were merely an extension and exaltation of those which had previously existed. The progress of the case henceforward was not very different from what might have been predicated, on the supposition that the medulla spinalis was organically affected; and dissection showed that such had been the case.

But, having arrived at this point, we meet here with much more formidable difficulties. The only pathological change at all sufficient to account for the symptoms observed during life (I mean those which preceded the fatal cerebral attack), was the ramollissement of the grey matter of the cord. How does this comport with our knowledge of the functions of that portion of the organ?

The opinion most commonly held at present by physiologists, is, that the grey matter, wherever found, is the source of power, the medullary fibres merely serving the purpose of conductors. Disease, therefore, of this part should manifest itself either in perversion or in destruction of power. In the case before us, it was the latter; and, so far, all appears plain enough. But, though sensation was almost annihilated, the power of motion remained but little impaired; and herein lies our chief difficulty. That which would account for the loss of sensation, should also, if the generally received hypothesis be correct, have involved the loss of motion. But this was not observed. Nor are the obscurities involving this subject at all diminished by references to other recorded cases. Dr. Abercrombie quotes from Ollivier an interesting case, in which a similar pathological condition existed, but with symptoms very different. "The affection began with numbness of the forefinger of the left hand, which gradually extended over the hand and arm. After some time, the other hand and arm became affected in the same manner; and, after a year, the lower extremities. All the limbs then became paralytic, *but without loss of feeling*.[1] The legs were bent upon the thighs, and the thighs upon the abdomen, and

[1] There is here some little obscurity in the report. Did the *numbness*, spoken of above, disappear, as the other symptoms were developed?

the arms rigidly flexed across the thorax, with the points of the fingers pressed against the palms of the hands. If attempts were made to move the limbs from these positions, they were thrown into spasmodic contractions with much pain. The patient died in this state at the end of eight years from the commencement of the disease. Along nearly the whole length of the cord, there was a central cavity full of a soft grey mucus. It was considered as arising from ramollissement of the grey central matter of the cord. The parietes of the cavity were formed by the white matter in a healthy state."[1]

It is not easy to reconcile these discrepancies, nor indeed to account satisfactorily for the phenomena of Ollivier's case standing by itself; for the spasmodic contractions, into which the limbs were thrown, when attempts were made to straighten them, were evidence that motor power was not annihilated, though volition could not call it into action. And the disorganization was too complete to allow us to fall back upon the supposition, that there was a state of continued irritation in the nervous centre, producing the permanent contraction when at rest, and the spasms under fresh excitement. For a less extent of disease, this might be a correct explanation; but it will not apply to such a degree of structural mischief, as is involved in the conversion of the interior of the cord into a canal filled with grey mucus.

But leaving this case, and turning our attention again to that one which is the more immediate object before us, let us inquire if it be possible to offer any explanation of its symptoms and morbid appearances, which shall preserve intact the foregoing hypothesis, "that the *vesicular* is the truly dynamic nervous matter, the source of all nervous power."[2] Todd and Bowman, in their very admirable work on Physiological Anatomy, from which the above statement is quoted, contend that the *posterior* horns of the grey matter of the cord, "as being the part in which the sensitive roots are implanted, participate largely in the mechanism of sensation; and that, by their union with the brain, they become, *pro tanto*, a part of the centre of sensation, so long as that union is unimpaired."[3] The impulse of volition, again, exerted primarily in the grey matter of the brain, acts through the fibres of the anterior pyramids (which they regard as merely commissural) on the *anterior* horns of the grey matter of the cord, which in its turn stimulates the motor roots of the implanted nerves, and produces muscular contractions. Now, if it could be shown that, in the particular example we are discussing, the posterior cornua of the grey matter were most diseased, and had become, as a consequence, most profoundly degenerated, their analogues in front still retaining somewhat of more healthy structure, we should be able to reconcile the difficulties of the case at once. This it is not possible to do; for the examination was not by any means sufficiently minute; and, therefore, any explanation thus founded can merely rank as a supposition. This is but an unsatisfactory position; but it is the best, so far as I can see, which can be assumed.

On one occasion, during the last fatal attack, it was noticed that the sensibility of the feet was greatly increased. Did this depend upon the cerebral excitement? or might not the quickened circulation in which

[1] On Diseases of the Brain, etc. Third edition, p. 349.
[2] Todd and Bowman. Physiological Anatomy, vol. i, p. 322. [3] Ibid. p. 331.

the cord, in common with other organs, must have shared, have stimulated, for a time, its half-destroyed energies?

It is greatly to be regretted, that no direct experiments were made to ascertain the condition of the excito-motor functions. If the action of the sphincter ani be reflex, as Dr. Marshall Hall supposes, then in the perfect manner in which its office was performed, until within the last few days of life, we have one proof that they were entire. But if Todd and Bowman be correct in their opinion, that its active contractions are mainly excited by voluntary influence, then, of course, its healthy condition will merely serve as an additional illustration of what was manifested in the muscles of the limbs and trunk, viz., that the stimulus of volition remained in great measure operative. And, probably, the circumstances under which it failed eventually, may be regarded as some evidence in favour of the last-mentioned view; for it was when the brain itself was diseased, and when the power of volition generally failed, the patient having become unable even to turn himself in bed, that the urine and fæces were passed involuntarily.

There is one other point of interest in the case, to which I would refer in conclusion, and that rather in the way of question than of affirmation. May not the spurious diabetes, with which my patient was afflicted about a twelvemonth after the commencement of his illness, have been caused by the pathological condition of the spinal cord? We have abundant evidence of the influence of the nervous system over the secreting organs, especially the kidneys; witness the large discharges of limpid urine, which so commonly accompany the hysterical seizure. And this instance is one very much to the purpose; for though it is probable, that, in many cases, the urinary apparatus is stimulated from direct sympathy with the primarily affected uterine nerves; yet in others, and more especially when the flow succeeds instead of preceding the attack, it appears rather the indirect result of irritation propagated to the spinal cord, and thence reflected on the kidneys. And if this be the case, it is not difficult to understand how another, and more permanent, state of excitement in the cord should originate and keep up an undue action of these secreting organs. I do not know what was the state of the skin, as regards its transpiration, at that time; but when Mr. P. was under my care, the perfect absence of all perspiration was most marked. This has often been observed in cases of paralysis; and that it depends upon the same cause as that which produces the paralysis itself, is proved by the fact that, in some cases, "while perspiration is abundant on all other parts of the body, there is no perceptible moisture on those which are paralysed."[1] In this, therefore, we have the converse phenomenon to the first; at least, if the hypothesis indicated above be founded in truth.

About the same time that Mr. P. was under my care, I attended a case which, at the commencement, presented the ordinary symptoms of continued fever. On the eighth day, the patient, a young man, became suddenly comatose; and, at the same time, *a most copious and universal sweat* broke out. His fæces and urine were passed involuntarily, *the latter in inordinate quantity*. On the night of the eleventh day, he

[1] Library of Medicine, vol. ii, p. 275.

suddenly recovered his consciousness, and was able to speak, though very imperfectly; but the other symptoms remained unabated. He gradually sank, and died on the morning of the thirteenth day; the extraordinary secretion of sweat and urine continuing to the last. There was no dissection. Here, again, the symptoms of disturbance in the nervous centres, and the abnormal excitement of the secreting organs, were coincident.

Torquay, November 27, 1849.

CASE OF IDIOPATHIC TETANUS SUCCESSFULLY TREATED.

By THOMAS BEVILL PEACOCK, M.D., Assistant Physician to St. Thomas's Hospital.

Though cases of Idiopathic Tetanus, and those in which the symptoms supervene gradually, are usually more tractable than the traumatic and acute forms; yet, as the disease is, under all circumstances, so frequently fatal in its result, it is conceived that the following may be worthy the notice of the profession.

Case. Samuel Sessions, a labourer, residing at East Acton, forty-eight years of age, was admitted into the Royal Free Hospital, on the 2nd of November, 1847. He stated, at the time of his admission, that he had taken cold on the 17th of October, while working in a potatoe field and perspiring, and shortly after felt some stiffness, and difficulty of moving the left leg; this was followed by similar stiffness of the right leg, and cramp in the back; and subsequently the neck and muscles of the jaws became affected. On the 21st, he was scarcely able to open his mouth; and when he succeeded in separating his jaws, they suddenly snapped to, and bit his tongue. Since this time, he had been quite incapable of taking any solid food. Soon after the locked-jaw came on, he began to suffer occasionally from severe spasms, more especially when he made any exertion, as in the effort of getting out of bed. In these attacks the body was drawn back, the legs extended, and the stomach became hard and painful. He had several paroxysms of this description during the last week; and the day before his admission, he had one more severe than any of the former attacks. He stated, that though formerly of intemperate habits, he had latterly lived regularly, and had been but poorly off for some time.

When seen on the 3rd of November, he expressed a wish to be got out of bed; but, immediately on placing his foot to the floor, he was seized with one of the severe paroxysms. His body became arched backwards, his limbs were rigidly extended, the abdomen was excessively tense, and the muscles of the jaws contracted, and he cried out from the severity of the pain in the epigastrium and back; the pulse also became very hard and rapid. When the attack subsided, the pulse became feeble and less frequent, the face was pale, and there did not appear to be any tenderness of the spine; the jaw could with difficulty be opened to a small extent, and the tongue was found dry and furred; the bowels were confined, and had been so from the com-

mencement of his illness. He was directed to take a purgative draught immediately, and afterwards to have two grains of calomel and one of opium three times daily, and to be cupped to 8 oz. in the course of the spine; to have port wine and beef-tea at intervals.

November 4. The medicines prescribed have been given to him, and he has been cupped, and has passed a better night, having slept at intervals. The bowels have been freely acted upon; the pulse is 76 and feeble, the skin cool; the mouth admits of being somewhat more opened, and he can protrude the tongue better,—it is less furred; the body is drawn somewhat back, and the abdomen is excessively tense; he complains of the severe pain which he experiences at intervals in the pit of the stomach. The pain, he says, is increased on pressure. He has not had any of the more severe paroxysms during the night. He was directed to continue to take the calomel and opium with the wine and beef-tea; and, if the spasms should return, to inhale ether.

He had a severe spasmodic attack on the evening of the 4th, and the ether was therefore administered. He inhaled it for three or four minutes, and then became insensible, and the spasms relaxed, but recurred almost immediately after he recovered his consciousness. The inhalation was then repeated; and, this time, it was followed by more decided and permanent relaxation of the cramps and relief from pain. At 12 o'clock at night, however, the state of rigidity had returned, and the cramps were becoming severe; the ether was therefore again inhaled; and though there was entire relaxation after this for a short time, in about twenty minutes he had a more severe spasmodic attack than any which he had previously had since his admission. It was evident, that the ether did not exercise any permanently favourable influence; and he was therefore placed in a blanket wrung out of hot water, and this again was wrapped in two or three other dry blankets; he remained so "packed" from 10 P.M. on the 5th, to 6 A.M. on the 6th.

November 6. To-day there is an evident amendment in his symptoms. He states that he has passed a comfortable night, and has slept at intervals. The permanent contraction still continues, so that his body is arched backwards and the abdomen is tense; but he has been entirely free from the severe spasms, and has less pain in the epigastrium. He can open the mouth a little more, and is able to protrude the tongue better. The pulse is 100 and quiet; the tongue slightly furred. He perspired profusely, but felt quite warm and easy during the night, and says, that the bath has afforded him great relief. The gums are affected by the calomel The bowels have been freely acted upon, and he makes water freely. He has taken his wine and beef-tea well.

To repeat the calomel and opium pills to-night, and afterwards omit them. To take half-an-ounce of port wine, and one drachm of the compound tincture of bark, every hour, and to have a turpentine enema at night, and use the blanket bath, should the paroxysms recur.

November 8. On the evening of the 6th, he had a severe attack of spasms, and was immediately put in the hot and damp blanket, and packed as before. The paroxysm soon gave way, and he has had no attack since; but, at his own wish, he was wrapped in the blankets again last night. His body is now much less drawn backwards, the abdomen is less

tense, and he can open the mouth and protrude the tongue without much difficulty. The pulse is 92 and quiet; the skin cool and moist; the bowels were three times relieved after the enema, and twice yesterday.

To take the wine and bark every two hours, and use the blanket if necessary.

November 12. He has had no return of the severe spasms, and the permanent cramp of the muscles of the back and abdomen has nearly subsided. He has still some stiffness of the muscles of the jaws and neck, and the face has not altogether lost its rigid appearance; the eyebrows and forehead being still corrugated and contracted. He can now lie in any position; the pulse is of good volume, and quiet; the tongue is clean, and the bowels act naturally. Since the 10th he has taken the bark and wine only every four hours, but, at his own request, he has had the blanket bath for a short time each evening; and, whenever he feels the spasms, he immediately applies for it.

November 16. He is now gaining strength, and for the last few days has been able to take some solid food. The spasms have not altogether left the muscles of the face and neck, but all remains of the cramp of the abdominal and spinal muscles have entirely disappeared. The blanket bath has been occasionally used. From this time he did not again have recourse to it; and he was discharged, cured, on the 24th.

Remarks. In reference to this case, I have few comments to offer. The features which the disease presented, are sufficiently characteristic of Tetanus; and the course of treatment pursued requires little explanation. Few practitioners will probably be now found to contest the conclusion of Mr. Curling, that Tetanus is a functional affection, and not necessarily connected with inflammation of any portion of the nervous system. Yet there can be little doubt, that the disease is occasionally dependent on, or connected with, excited action of the spinal cord or its membranes; and this would appear to be especially the case when it arises after exposure to cold, etc. Taking this view of the pathology of the disease, I thought it well to commence the treatment of the case with mild antiphlogistic measures; a small quantity of blood was abstracted, by cupping, from the neighbourhood of the spine; the bowels were relieved by aperients, and calomel and opium were prescribed; and, though the febrile symptoms were at no time very marked, this treatment was obviously productive of benefit. The spasms, however, continued to recur; and, on the third day after his admission, he was directed to inhale ether. This was repeated several times; but, though in each instance temporary relaxation ensued, no permanent relief was obtained, and the spasms became more frequent and severe. On the evening of the fourth day, the packing in the hot and moist blanket was therefore had recourse to; and the beneficial effect of this application was attested, not only by the obvious relief which followed its first employment, but by the anxiety of the patient to recur to its use, whenever there was the slightest return of spasm, and to continue it till every symptom of the disease had subsided. Throughout the course of the attack, the patient's strength was supported by the free exhibition of animal food in a liquid form, with stimulants and tonics.

It is very generally admitted, that in Tetanus, few remedies afford greater relief than the warm bath; but, as ordinarily employed, its use can be continued for only a short time, and the frequent changes which it necessitates, are often injurious to the patient, by exciting the spasms or increasing their severity. To these objections the blanket-bath is not exposed. If the wet blanket be not too much wrung out, and the water be very hot, and if the patient be well packed in dry blankets externally, the heat and moisture may be long retained, and he may lie for many hours undisturbed, and during this time, food, stimulants, and other remedies may be administered. The packing may also be made the means of administering anodynes through the medium of the skin.

During the period of nearly four years that I was connected with the Royal Free Hospital, I had under my care another case of Idiopathic Tetanus, which occurred in a man, forty-seven years of age, a labourer, who had taken cold while working in the fields. The attack was more acute and severe than that which I have just detailed: he was admitted on the third day of the disease, and died on the sixth. The treatment pursued consisted in the exhibition of antimony, calomel, and opium, with the warm bath. His death was probably accelerated by an attempt to introduce a tube down the œsophagus, for the purpose of administering food. While resident in the Royal Infirmary of Edinburgh, I also witnessed a case of Idiopathic Tetanus, which proved fatal. I mention these cases, as Mr. Curling has stated that Idiopathic Tetanus is, in this climate, rarely a fatal disease. On the contrary, however, it will be seen, that of the three cases which have fallen under my personal observation, one only has terminated favourably.

20, Finsbury Circus, December 1849.

FATAL CASE OF GASTRO-INTESTINAL HÆMORRHAGE FROM CARDIAC DISEASE, WHILST UNDER THE INFLUENCE OF MERCURY.

By W. WHITE COOPER, Esq., F.R.C.S., Senior Surgeon to the North London Infirmary for Diseases of the Eye.

Mr. V. S., a merchant from Havannah, consulted me on the 31st October 1848. His statement was, that he had suffered, on several occasions, from severe febrile and liver attacks; and that, for some time previously, he had been annoyed with fits of vomiting of bile, pain in the right shoulder and side, etc. Whilst travelling on the continent, about two months before I saw him, he remarked that the flames of candles, when viewed with the left eye, appeared as blue as a Bengal light; he was teased with frequent muscæ and scintillations, pain over the brow, and headache; and objects appeared indistinct, as if seen through a film or mist.

On examination of the eye, the pupil was found to be contracted and nearly motionless, and the sclerotic had an unhealthy murky aspect; the largest type was discerned with great difficulty, and he could merely

see the outline of my features His complexion was of a muddy yellow, tongue exceedingly loaded with thick yellow fur, and his breath horribly offensive. The abdomen was tense, and there was considerable tenderness and some fulness in the hepatic region; pulse 84, and irritable, and bowels confined. It was evident that there was active congestion, and probably chronic inflammation of the choroid and retina, and that the liver was also much congested: the first indication clearly was, to unload that viscus and empty the alimentary canal. Considering that, as he had lived in the tropics, he would require a tolerably active dose, I prescribed six grains of the chloride of mercury, to be followed, after the lapse of four hours, by a brisk aperient draught, and broth diet. A blister to be applied to the left temple. On the 2nd November, I saw my patient again, and finding that the bowels had not been acted on, I directed a draught of infusion of senna, with tincture of jalap and sulphate of magnesia, to be taken immediately, and repeated at the expiration of four hours, unless the bowels had been thoroughly unloaded. This second dose brought away a panful of foul offensive matter, and afforded much relief. On the 3rd inst. he was decidedly better; the tension of the abdomen had diminished considerably, and there was less tenderness in the right side and epigastrium. The gums, however, showed evidence of mercurial action, and there was some salivation. The usual washes of alum, etc., were prescribed, and a mild aperient mixture also, in order that an action on the bowels should be kept up.

November 4th. The general symptoms are greatly improved, and the indistinctness of vision diminished, he being able to discern letters more distinctly. The salivation, however, is profuse, and face much swelled. To wash the mouth frequently with weak brandy and water, to omit the aperient, which is no longer required, and to take a mixture of infusion of cascarilla and orange peel, with dilute mineral acid, every six hours. Diet, strong beef tea, isinglass jelly, etc.

November 5th. With the exception of the salivation, the improvement still continues. There is much swelling of the gums; and an ulcer, about the size of a split pea, has formed on the inside of the gum, on each side, corresponding to the last upper molar teeth, and from one of these ulcers there has been a trifling oozing of blood. I swept the gums with a solution of nitrate of silver. The medicine to be continued.

November 6th. The salivation less, but in the night there had been some bleeding from the mouth. Supposing it to have come from the ulcers, I again touched them with caustic, and desired that the mouth should be frequently rinsed with a gargle, containing tinct. matico, ʒiii; acidi gallici, ϑj; aluminis, ϑiss; tinct. catechu, ʒiij; aq. rosarum, ʒviij. The patient was, in all other respects, decidedly better. There was no longer tenderness on pressure on the right side, the sight was improving, and he was cheerful. To take two grains of disulphate of quinine, with five drops of dilute sulphuric acid, every six hours, and to continue a bland nutritious diet.

November 7th. The salivation was nearly gone, and the patient felt so much better, that he went out for a drive for an hour. When I saw him in the evening, he said that he had spat a little blood; but I could not detect any bleeding spot, nor did it recur during an hour that I

remained with him. He was desired to use the gargle frequently, and to continue the quinine.

November 8th. The sight steadily improves, and the patient considers himself convalescent. He has been out for another drive, and is making preparations for his departure for Cuba. At my evening visit, there had been no return of the bleeding; and I believed that it was at an end, little anticipating the catastrophe which was so shortly to follow.

November 9th. On my arrival at 11 A.M., I was grieved at finding a great change for the worse. Mr. V. S. had retired to bed on the previous evening in good spirits, and feeling very comfortable. About 11 P.M. he awoke with a sensation of suffocation; and, partly by coughing and partly by vomiting, relieved himself of a quantity of blood. He did not summon assistance; but continued at intervals, during the night, to *hawk* up blood mixed with viscid saliva, and was greatly tormented with coagula in his throat, which he had difficulty in removing. I found him reclining on a sofa, pale, and still expectorating blood. This did not flow in gushes, nor pure, but was hawked up in the form of coagula, mixed with much viscid saliva. His pulse was rapid and feeble, and he was greatly depressed in spirits. I at once administered some hot brandy and water; and, when he had rallied a little, washed out the mouth with a sponge, and sought for the source of the hæmorrhage. With my fingers, I pulled out coagula from the fauces, but could not discover whence the blood came. Under these circumstances, and not desiring to take on myself the whole responsibility of the case, I sent for Mr. Fergusson, requesting him to bring instruments, in case it should be necessary to perform an operation. During the interval, I caused the patient to hold ice in his mouth, to gargle his throat with a strong styptic solution, and administered a dose of gallic acid. On Mr. Fergusson's arrival, he made a most careful examination, but with no better success than myself. In this state of absolute doubt as to the seat of the hæmorrhage, it was decided to give two grains of diacetate of lead, with half a grain of opium, every two hours; to support the strength by brandy in jelly; to cause the patient to swallow iced water frequently; and to carefully watch the symptoms. I remained with him several hours; and, at 11 P.M., had the satisfaction of finding that he had ceased to expectorate blood, and had fallen into a tranquil sleep at 9 P.M., having taken three of the pills. His bowels had been acted on thrice, and he had passed a considerable quantity of black grumous blood. Pulse 100, of very fair strength, and extremities warm. He was lying on a sofa on his right side; and, although he was still dressed, I did not think it prudent to disturb him by removal to bed. I sat up with him during the night, occasionally feeling his pulse and extremities. The former continued good, and the latter retained their heat. He continued to sleep in the same attitude until a little before 6 A.M., when, whilst I was standing watching him, he raised himself up, turned round, and laid down on his left side, with his head resting on his arm. Thinking that he was waking, I went up, and, placing my hand on his shoulder, inquired how he felt? Receiving no answer, I looked closely at his face, and saw at once that he was dead! Nevertheless, I tried all the means in my power to restore animation, but they were of no avail. He had fainted, and the heart had ceased to pulsate.

A violent chill, from exposure to cold during my attendance on this case, confined me to bed for the two following days, and prevented my being present at the post-mortem examination, greatly to my disappointment. It was, however, conducted in the most careful manner, twenty-six hours after death, by Mr. Fergusson, to whom I am indebted for the following particulars:

"On inspecting the body of the late Mr. V. S. this morning, I concluded that the cause of death was bleeding from the bowels, complicated with disease of the heart. The intestines generally were filled with clotted blood, which had accumulated for many hours previous to death. The stomach contained the same; and the appearance of the mucous membrane of the canal indicated that it had been the seat of the hæmorrhage. The heart was at least one-third larger than natural, and its left ventricle was remarkably thickened. The liver was larger than natural. One kidney was somewhat diseased, but all the other viscera seemed tolerably healthy.

"There was no ulcer nor abrasion on the throat, fauces, or tongue; and the bleeding from the mouth must have resulted from some peculiarity which had caused the escape of blood from the lining membrane of the stomach and bowels.

"Mr. V. S. was, as you know, salivated by a very small quantity of mercury. This condition is so common, while bleeding from the mucous membranes at the same time is so rare, that I cannot suppose the one to have been the result of the other.—W. F."

Remarks. "Hæmorrhages", says Dr. Watson,[1] "from various parts of the mucous membranes, are, in truth, very common effects of cardiac disease"; and to this fact must the fatal result of the case before us be mainly ascribed. On review, it presents several points of considerable interest. Had the disease of the heart existed without mischief in the liver, or the liver been enlarged, the heart being sound, there would, in either case, have been a predisposition to intestinal hæmorrhage from the congestion caused in the abdominal vessels. The hyperæmia of the liver, in the present instance, would be a natural consequence of the cardiac disease; and thus there would result so great an obstruction in the abdominal circulation, as to gorge the vessels of the whole intestinal canal to the utmost, giving rise to hæmorrhage by exhalation from the mucous membrane. The spleen does not appear to have been enlarged to any extent, though such a condition might have been expected. Considering that the patient had been long resident in the Havannah (the climate of which is so pernicious to Europeans, that it is said that more than one-half of those who arrive there are carried off in the course of one year, principally by yellow fever), and that he had suffered from fever, it is matter of surprise there was not more extensive mischief in the liver and spleen.

The constitutional idiosyncracy, which led to the production of so powerful an effect from a single dose of calomel, could not have been foreseen, nor was the patient aware of such a peculiarity; but the mercurial action might have increased the hæmorrhagic disposition, by diminishing the cohesion of the blood, and lessening its power of coagula-

[1] Lectures on the Practice of Physic, vol. i, 248.

tion. Thus we find a series of conditions which, *separately*, might not have caused death at that time, but in combination, led to the fatal result. It is, however, clear that, with a heart so diseased, death must have taken place at no distant period.

A point which caused much embarrassment, and materially increased the obscurity of the case, was the mode in which the blood was got rid of. Instead of being vomited up, as might have been expected, considering the source whence its originated, it was *hawked* up, as if it came from some part of the fauces or throat. The swelling from the mercurial action had not entirely subsided, rendering it difficult and painful to open the mouth widely; thus it was no easy matter to obtain a view of its interior: nevertheless, although neither Mr. Fergusson nor I could detect the seat of the bleeding, we satisfied ourselves that it was not in the mouth. It had occurred to me, that it might be a case of hæmorrhage by exhalation from the gums and fauces; but having directed the patient to cleanse those parts thoroughly by washing and gargling, I swept away the remaining coagula with a sponge, and carefully watched whether any blood exuded; nothing of the sort was visible, but after the lapse of a minute, the patient began to hawk and to endeavour to clear his throat of coagula. The distress occasioned by these clots was painful to witness; a mass would be drawn out, affording momentary relief, only to be followed by the tickling and choking sensation of another mass, and so firm were these, that it was necessary to scoop them out of the fauces with the finger, or to sweep them away with a sponge. During life, the impression on the minds of Mr. Fergusson and myself was, that the blood came from the fauces or their neighbourhood; but the most careful examination after death failed to discover any ground for this opinion; on the other hand, ample evidence appeared in the stomach and intestinal canal, especially the latter, that the blood had been poured out from the mucous membrane lining those parts.

The death of this patient illustrated extremely well the effect produced on a weakened heart by the erect posture being suddenly assumed. Well aware of the danger of throwing a burthen upon such a heart, I had particularly cautioned him against sitting up. To this he had attended whilst awake; but the stiffness, produced by lying the whole night on one side, probably caused him to shift his position whilst more than half asleep; he rose up with vigour, but the heart, unable to bear the additional column of blood, stopped, and life became at once extinct. The amount of blood lost was by no means such as to lead me to anticipate death; so far as could be judged, it was between four and five pounds—certainly not more; and so little did Mr. Fergusson expect a fatal result so soon, that he had made an appointment for the morrow, confidently believing that he should find an improvement in our patient, but he, poor man, died some hours before the time named for the consultation.

Tenterden Street, December 1849.

BIBLIOGRAPHICAL RECORD.

MEDICO-CHIRURGICAL TRANSACTIONS. Published by the Royal Medical and Chirurgical Society of London. Volume the Thirty-second. Pp. 192. London: 1849.

IT has been often said, that all human institutions have their periods of greatness and decay; and it would appear that the history of the Royal Medical and Chirurgical Society of London forms no exception to this law. Here we have a sparsely-printed 8vo, of 192 pages, published as the totality of the papers of Session 1848-49, deemed worthy of appearing in the Transactions.

So startling a fact calls for investigation; and, as an important step in the inquiry, we have, with the assistance of the copious reports of the Proceedings which appeared in our volume for 1849, constructed the following tabular history of the session:—

I. REJECTED PAPERS. SESSION 1848-9.

Subjects.	Author.	F. or Not F.	When read.	Lond. Jour. of Med. Vol. I.
1. Protection from Contagion of Animal Poisons	William Acton, Esq.	F.	Nov. 14, 1848	p. 108
2. Creeping Bubo	Sam. Solly, Esq. F.R.S.	F.	Dec. 12 —	111 & 437
3. Keloides	Erasmus Wilson, Esq.	F.	Jan. 9, 1849	211
4. Case of Cheloidea	W. O. Chalk, Esq.	F.	— —	*ib.*
5. Aneurism of Axillary Artery	Henry Hancock, Esq.	F.	— 23, —	296
6. Scarlatinal Albuminuria (embracing 219 cases)	James Miller, M.D.	F.	— —	297
7. Cholera Statistics	J. S. Streeter, Esq.	F.	Feb. 27, —	397
8. Cervical Paraplegia in an infant	Henry Davies, M.D.	F.	Mar. 27, —	500
9. Diabetes	Wm. Macintyre, M.D.	F.	— —	501
10. Paracentesis Thoracis in Pneumo-thorax	Hamilton Roe, M.D.	F.	April 10, —	678
11. Foreign Body in Bronchi	Sam. Solly, Esq. F.R.S.	F.	— 24, —	680
12. Secondary Syphilis	Henry Lee, Esq.	Not F.	May 22, —	688 & 797
13. Tumours of Mammary Gland	J. Birkett, Esq.	Not F.	June 12, —	688
14. Variety of Closed Pupil	P. C. Delagarde, Esq.	Not F.	— —	689
15. Wound of Radial Artery	H. B. Norman, Esq.	F.	— 26, —	777
16. Case of Diseased Larynx	E. Humby, Esq.	F.	— —	*ib.*
17. Anatomy of Sudoriferous Organs	G. Rainey, Esq.	Not F.	— —	778
18. Treatment of Pericarditis	John Taylor, M.D.	F.	— —	779
19. Calculi of Pancreas	Oscar Clayton, Esq.	F.	— —	781

II. PAPERS PUBLISHED IN TRANSACTIONS. SESSION 1848-9.

Subjects.	Author.	F. or Not F.	When read.	Lond. Jour. of Med. Vol. I.
1. Nitrate of Potash in Rheumatism	W. R. Basham, M.D.	F.	Nov. 14, 1848	p. 106
2. Puerperal Fever of Vienna	C. H. F. Routh, M.D.	Not F.	— 28, —	108
3. Case of Cysticercus Cellulosæ in Anterior chamber of Human Eye	Wm. Mackenzie, M.D.	F.	— —	111
4. Minute Anatomy of the Lung of a Bird	G. Rainey, Esq.	Not F.	— —	110
5. Case of Lesion and Reparation before Birth	John D. Jones, Esq.	Not F.	Dec. 12, —	112

II. PAPERS PUBLISHED IN TRANSACTIONS (CONTINUED).

Subject.	Author.	F. or Not F.	When read.	Lond Jour. of Med. Vol. I.
6. Appendix to a Case of Successful Removal of an Ovarian Tumour. .	H. E. Burd, Esq.	Not F.	Jan. 9, 1849	p. 213
7. Exfoliation of Anterior Arch of Atlas	Robt. Wade, Esq.	F.	Feb. 13, —	395
8. Pathological Researches into Diseases of the Ear	J. Toynbee, Esq. F.R.S.	F.	— —	395
9. Case of Apoplexy of Cerebellum	Robert Dunn, Esq.	F.	Mar. 13, —	498
10. Mental Diseases	J. Webster, M.D. F.R.S	F.	May 8, —	686
11. Case of Dissecting Aneurism.	J. Risdon Bennett, M.D.	Not F.	June 26, —	781
12. Case of Popliteal Aneurism, in which Femoral Artery wasted. . .	J. D. Wright, Esq.	Not F.	— 12, —	689
13. Case of Chronic Hiccup and Vomiting: oxalic acid found in Blood. .	Alfred B. Garrod, M.D.	Not F.	— 26, —	690

From the above tabular analysis, it appears, in the session 1848-49, that nineteen papers were rejected, of which fifteen were by Fellows: and of the thirteen allowed to appear in the Transactions, only six were by Fellows of the Society! The six approved papers by Fellows may be thus classed:—

CASES, BY	PATHOLOGICAL AND THERAPEUTICAL INQUIRIES, BY
Dr. Mackenzie.	Dr. Basham.
Mr. R. Dunn.	Mr. Toynbee.
Mr. Wade.	Dr. Webster.

The seven approved papers, not written by Fellows, may be thus analyzed:—

CASES, BY	ANATOMICAL RESEARCHES, BY
Mr. Jones.	Mr. Rainey.
Mr. H. E. Burd.	PATHOLOGICAL AND THERAPEUTICAL RESEARCHES, BY
Mr. Wright.	Dr. Routh.
Dr. Risdon Bennett.	
Dr. Garrod.	

We might pursue our analysis of the Transactions much further; but we have said enough to show, that the Royal Medical and Chirurgical Society is in a bad state;—and this, notwithstanding the number of its Fellows, and the known talents and reputation of the majority. Among all the physicians of the noble hospitals of London, and other Fellows equally competent, one only—Dr. Basham—has exhibited an effort to benefit the neglected but all-important science of Therapeutics. This fact, we think, marks the weakness of the Society more than any other, while it points to an easy means of invigoration:—to encourage the Fellows, who have the opportunities and the talents fitted for the purpose, to make patient clinical researches into the pathology of diseases, and uses of medicines, by giving their Essays an honourable place in the Transactions. Our hospital surgeons have not contributed one line to this tiny tome. Fellows are irritated by the present regime; but we hope to see a more encouraging system introduced, and the spectacle never again exhibited of papers of intrinsic value being rejected. The whole machinery of the Society is rotten, and the institution, if not renovated and kept in repair, will, in another year, dwindle into a mere book-lending club. A select committee ought to be at once appointed, to inquire into the present condition of the Society,—not with the view of throwing discredit on individuals, but of laying open to view the principles of government, and the machinery by which the Volume of last session has been made so paltry, and why the aspect of the present campaign is so dispiriting.

Letter to the Lord Advocate of Scotland on Medical Reform. By James Syme, Esq., F.R.S.E., Professor of Clinical Surgery in the University of Edinburgh, and President of the Royal College of Surgeons of Edinburgh. Pp. 16. Edinburgh: 1849.

Mr. Syme first points out that there is no deficiency in medical instruction in Scotland, to warrant the exclusive privilege of the Apothecaries' Company in England. We think this point is not likely to be disputed; but, unfortunately, it has no practical bearing on medical legislation, which has, by almost general consent, been handed over for settlement to Corporation committees and intriguing coteries, for whom no common ground existed, but compromise—that miserable refuge of selfishness and baffled ambition.

Mr. Syme avers that he has, for two reasons, constantly predicted the failure of the various schemes of Medical Reform hitherto brought forward :—"*In the first place*, because they were all measures of detail—extremely complex, and affecting a great variety of interests, so that any of the parties concerned, wishing to impede their progress, could easily find means to do so; like the London Apothecaries, who not being able to deny the justice of equal privileges to practice being founded upon an equality of education, instead of questioning this principle, or expressing any unwillingness to consider the arrangements proposed for carrying it into effect, confided the safety of their monopoly to the tactics of delay. *Secondly*, because none of these measures were directed with a single straightforward view to general expediency and public advantage, but were all founded on the principle of give and take, or mutual concession and accommodation. Your lordship, and your lordship's predecessors, in attempting to legislate for 'Medical Reform', have said to the various colleges and corporations, '*Arrange the matter with each other, and when you agree upon the details, I will embody them in a Bill.*' It may be easily imagined what a tissue of absurd and mischievous regulations would thus be woven, through the selfish eagerness of each body to gain some advantage, blinding it to the tendency of proposals from others in the way of exchange or equivalent for what they surrendered." (pp. 7-8.) In this passage, we think, are most correctly stated the causes of the miscarriage of the Medical Bills; and in it, also, we find much cause of thankfulness that they have all proved abortive.

Mr. Syme laughs at the importance which some attach to the classification of practitioners by Act of Parliament. In truth, it is an impracticable absurdity. On this subject, we must again allow the author to speak for himself: —"Another favourite scheme of medical legislation has been the classification of practitioners into Physicians, Surgeons, and General Practitioners, in complete disregard of many obvious objections; and especially the notorious fact, that the two former classes exist only in metropolitan cities. The whole of Scotland at present contains not more than three or four physicians, practising only as such, and but one surgeon [Mr. Syme?] who devotes his attention exclusively to surgical cases. In all England there is not, so far as I know, one *pure* surgeon out of London.[1] How, then, could this arrangement have been realized, with due regard to the real position of practitioners? It is true that the Medical Bills contained processes of education, which were to confer the privilege of assuming these titles, which have hitherto been appropriated to men actually engaged in practice, immediately upon leaving the schools. This was to be accomplished by lengthening the period of study, and multiplying the examinations of candidates, so as to place the acquisition of such honours beyond the reach of any students, except those whose pecuniary resources and endurance of irksome restraint—perhaps more indicative of patience than of talent—might enable them to complete the protracted period of discipline. But is it possible to imagine anything more

[1] And very few in London. Editor.

absurd than such a system? Is it less absurd than would be the proposal of a Theological Seminary or an Inn of Court, to determine by education and examination the grade of eminence to be attained in the Church or Law? Is it to be supposed that a physician or surgeon, having no claim to his title except the possession of his parchment, could ever displace from public confidence the practitioner who has gradually risen, in the estimation of his professional brethren, through many long years of assiduous and successful exertion; and who, although possessing no title different from those of his neighbours, is resorted to by them in every case of difficulty? If, indeed, gentlemen who elevate themselves to this position in practice could, without any trouble to themselves, and especially without submitting to the annoyance of an examination, be assumed as associates by a College of Physicians or Surgeons, the arrangement would be no less reasonable than advantageous, both publicly and privately. But any attempt to determine the estimation in which medical men are to be held, by ushering them upon the stage of practice in different ranks, is no less impracticable than irrational." (pp. 9-10.) This is true.

We profess not to be able to follow medical reformers through all their mysterious labyrinths of "give and take", and therefore we decline giving any opinion as to the origin and history of the project of establishing in England a College of General Practitioners; but we agree with Mr. Syme in believing that, "of all the contrivances which have resulted from the principle of mutual accommodation, it is unquestionably the most pernicious, and the most discreditable to its authors." The dignity and usefulness of the medical profession cannot be maintained or augmented by vulgarizing the *many*, and exalting a capriciously selected *few* to a theoretical altitude. It is the first and most sacred duty of a Government, to elevate and improve the great body of family or general practitioners, and especially those of the humbler class, who, only by embracing all departments, are able to scrape together a subsistence in districts too poor or too thinly-peopled to support the pure physician, the pure surgeon, the pure obstetrician, and the pure pharmaceutist. The village surgeon, who "condescends to men of low estate", belongs to a class second to none in social importance; and his humanity is not of an inferior stamp because he does not degrade to the rank of a pauper those who are able and anxious to pay for his services, in such a way as they can afford. It would be well for humanity, that Mr. Syme's noble sentiments were to find a response in Parliament.

"It has hitherto been supposed", says Mr. Syme, "that the great duty of a Government or Legislature was, so far as possible, to elevate and improve the department of medical practice which ministers to the poorer classes of society. But the proposed College of General Practitioners would have sunk beyond the power of recovery, all who were unwise enough to enrol themselves under its Charter of degradation.

"So long as the village surgeon is connected with a College, to which belong the great and good names of his profession, he is cheered in the discharge of his laborious and ill-requited duties, by the light reflected from the elevated station of his more eminent brethren; and he may console himself with the reflection, that if circumstances had permitted his cultivation of a wider field, he also might have proved an Abernethy or a Cooper: but if you consign him to a fellowship of mere drudgery, without a single association of merit in teaching, writing, or hospital practice, what could be expected from him, except the feelings and conduct of a man bent upon gain as the sole object of his exertions? If the new College were ever established, its leading members could scarcely maintain a distinguished place in their profession, and would probably not stand higher than the Apothecaries." (p. 13.)

The plan of Medical Reform proposed by Mr Syme is very simple, and can therefore, unlike many other schemes which have been promulgated, be

discussed, by friends and foes, upon its real merits. We see no detail in it to object to; but, nevertheless, we pay our tribute of respect to the generous sentiments and right principles which pervade Mr. Syme's pamphlet, rather than to specific projects, which we shrink from entering upon, lest their treatment should usurp the place of scientific discussions, which are more suitable to our pages. It therefore now only remains for us to quote the programme of

Mr. Syme's Plan of Medical Reform. "This plan is founded upon the principle that an equal amount of qualification should entitle to an equal right of practice, and upon the assumption that Scotland contains efficient means of medical education. If these data be conceded, I would propose that Government should constitute a Board, which, for the sake of distinction, might be named the Medical Council, and be charged with the following duties:—

"1. To determine what amount of education and examination should be held requisite for obtaining the license of general practice.

"2. To sanction or constitute Boards for bestowing the license of general practice in London and Edinburgh, and also in Dublin, if the measure should be extended to Ireland.

"3. To publish annually a Register of Qualified Practitioners, together with the degrees, diplomas, or other honorary distinctions, which they may have acquired." (p. 15.)

Mr. Syme concludes by showing, that the honours at present conferred by Universities, and by the Royal Colleges of Physicians and Surgeons, would not be affected by this plan; but suggests, that if these honours were bestowed in compliance with rules laid down in improved Charters, (in accordance with the tone of public opinion,) "all the objects of Medical Reform being thus accomplished, and peace taking the place of angry contention, professional talent would be allowed to pursue its proper course in the promotion of Medical Science." (p. 16.)

Annual Report of the Progress of Chemistry and the Allied Sciences. By Justus Liebig and H. Kopp. Edited by A. W. Hoffman and W. Delarue. Parts I, II, III. 1847-48.

We hail the appearance of this work with much satisfaction, believing it likely to be of practical utility. Although the study of modern languages is general at the present day, yet there are many chemists who, not possessing the advantage of an acquaintance with French, German, and Italian, are precluded from the study of the numerous valuable works and scientific periodicals continually issuing from the foreign press. To them, as well as to those to whom want of time or opportunity present an equal bar, this Annual Report will be of infinite service. The eminent names of Liebig, Kopp, Hoffman, and Delarue, are a guarantee for the fidelity of the execution; and immense pains have clearly been bestowed on its compilation.

Part I treats of Molecular Actions and Atomology; and under the head of Thermology much valuable information is contained. That beautiful experiment of Faraday's is now generally known, by which he rapidly freezes mercury by a mixture of ether and condensed carbonic acid, after it had assumed the spheroidal state in a red hot platinum crucible. The mercury thus freezing in a red hot vessel, is one of the most striking phenomena we know. Moritz states that, even on glass, water may easily be obtained in the spheroidal state, when placed at the boiling temperature, upon a heated glass surface; but this is less wonderful than the former. The subject of the formation of dew has undergone a re-examination by Melloni, and the interesting results are carefully given. Melloni distinguishes three horizontal strata in the air which surrounds thick vegetation. The highest stratum is in contact with those parts of the plants, that are radiating most strongly. This air falls down, and becomes still further cooled in the middle

region, where the vegetation is thicker, and still subject to radiation: it is here that the dew point occurs. The air now falling quite down to the ground, and between the lower parts of the plants, which are entirely protected by the upper, becomes warm again, and rises, loaded with the moisture of the soil, again to commence the same route. This circulation is the special condition of the formation of dew. Hence it is intelligible, why a draught of air opposes its deposition; why, in very dry air, dew is met with only near moist ground and stagnant water; and why the higher trees, exposed as they are to air currents, and surrounded with a drier atmosphere, are so little liable to be bedewed; and, on the same principles, why dew does not occur on the little Polynesian islands, and on ships on the high seas. KINETICS (or the science of motion), ACOUSTICS, and OPTICS, complete the first part. The nature of the candle flame has been recently investigated by Volger, who states that a globular blue flammule, or flame bud, is first produced at the summit of the wick, and is surrounded by a reddish violet halo, the *veil*. The increased heat now gives rise to the actual flame, which shoots forth from the expanding bud. The interior consists of a dark gaseous cone, and is surrounded by another dark hollow cone, the *inner cap*. The *external cap* constitutes the most luminous portion of the flame, in which hydrogen is consumed, and the carbon rendered incandescent.

Part II is devoted to MAGNETISM, ELECTRICITY, and INORGANIC CHEMISTRY. The last three years have been prolific in discoveries and observations on the phenomena of Magnetism and dia-Magnetism, by Faraday, Oersted, and other indefatigable labourers, at home and abroad. This portion of the work is not less carefully done than the remainder; but the multiplicity of facts, and the terse style in which they are recorded, obliges us to refer to the work itself.

ORGANIC CHEMISTRY forms the subject of Part III, and presents some valuable observations on Fermentation and Putrefaction, by Blondeau, Schmidt, and Wagner. When speaking of Nicotine, we are informed that the pungency of snuff is partly due thereto; and, as the question is not unfrequently started, others besides snuff-takers may be glad to know that "in snuff nicotine is partly free, partly in the form of a neutral or basic salt, most probably an acetate. The ammonia therein is likewise present in form of salt, and it is to these two salts that snuff owes its pungent effect on the mucous membrane of the nose." (p. 472.)

In a Quina Bark, occurring in commerce in the same packages as *quina regia*, but resembling externally *quina Huamilies*, Winckler has observed a new organic base, which he calls *quinidine*, and which, according to his observations, is frequently present in commercial sulphate of quinine. From a large quantity of crude quinidine, Winckler separated quinine and a yellow resinous substance. The insoluble residue, when dissolved in alcohol of 80 per cent., treated with animal charcoal, and slowly evaporated, yielded coloured crystals of quinidine. These, when purified, formed large crystals, possessing the lustre of glass, and having the form of a right angular four-sided prism, either slightly truncated or pointed by one or two planes. Winckler also strongly recommends cinchonine as possessing never-failing febrifuge qualities.

The third Part not only concludes Vol. i, but contains the first sixty-four pages of Vol. ii,—a somewhat awkward arrangement, because they are almost sure to be soiled or lost, if the first volume is bound up before the second volume is completed,—leaving them as loose sheets. Alcohols, Volatile Oils, Colouring Matters, etc., form the subjects of these pages, and the mention of colouring matters reminds us of a curious fact, which we give on undoubted authority. One of the most eminent colour manufacturers, in London, was unable, although repeated attempts were made, to strike a good *scarlet*, during the whole time the cholera prevailed in the metropolis. Some atmospheric influence was at work which baffled the most carefully-conducted

experiments, and rendered the production of that brilliant colour impossible.

This work, being intended for practical men, is essentially practical; and we believe it to be well calculated to assist the working chemist, and to forward the progress of the science of Chemistry in this country and its dependencies.

LECTURES ON MEDICAL MISSIONS: delivered at the instance of the Edinburgh Medical Missionary Society. pp. 320. Edinburgh: 1849.

THIS is truly an important volume; and, apart from the particular object for which the lectures were delivered, they contain such an exposition of Medico-Christian Ethics as must produce a benign influence on every thoughtful and conscientious physician, by whom they are perused.

The volume contains six Lectures, and a Prefatory Essay by DR. WILLIAM P. ALISON, the esteemed and able Professor of the Practice of Medicine in the University of Edinburgh.

Lecture I is Introductory; and contains a very eloquent and stirring statement by MR. MILLER (the Edinburgh Professor of Surgery), in which it is proved, both by theoretical arguments and historical details, that the most successful apostle of Christianity and civilization, is the man who combines with the piety and devotion of the Christian, that aptitude in therapeutics which is possessed by talented men, thoroughly educated in medico-chirurgery. Mr. Miller advocates "no permanent or general conjunction of Medicine and Divinity—as was attempted in the ancient period of conjunction and decline; but only that occasionally Medicine shall become the graceful handmaid of Religion, and assist in winning souls; that but a comparatively small number of devoted men shall go forth from the medical, to the missionary, field, while the main body still continue, in their peculiar vocation, to advance and elevate the healing art." (p. 33.)

THE ACTUAL SUCCESS OF MEDICAL MISSIONS is thus set forth: "It is not the untried experiment of yesterday of which we speak. At this time, there are about forty Medical Missionaries labouring in various fields. In Syria, whence the system first sprung; scattered through all Asia; in Polynesia; in Africa; among the savage tribes of America. In God's providence, they seem to have found wide doors specially opened for their entrance. As Medical men, they have found 'access to communities and families in heathen lands, where the mere evangelist is not permitted to enter'. 'He who is a physician is pardoned for being a Christian; religious and national prejudices disappear before him; all hearts and harems are opened; and he is welcomed as if he were carrying to the dying the elixir of immortality. He, more than any one else, possesses the *mollia tempora fandi*.' In the wilds of the Assyrian mountains, Dr. Asahel Grant, 'armed with his needle for the removal of cataract, forced mountain passes' which the sword could not command; and 'amidst ferocious warriors, won his way to their homes and their hearts. On account of his professional skill, he was enabled to traverse, in safety, regions heretofore untrodden by civilized man; where inevitable death met the ordinary traveller, and in whose defiles an army would perish in attempting to effect a forcible entrance.' In Damascus, 'while all other Franks were grossly insulted and pelted with stones, Dr. Thompson was allowed to pass unmolested.' A Missionary of thirty years' standing in India, has declared, that, 'but for the attention he was at some pains to render the sick, he knew not how he could have gained the confidence and ultimately the affection of the natives'. Mr. Gerstmann, 'by the exertion of his medical skill amongst the people (at Jerusalem), was the means of bringing large numbers of the Jews to listen again to Christianity, after they had entirely withdrawn themselves, at the command of the Rabbis.' In Siam, Dr. Bradley introduced vaccination, and became something more than

the Jenner of an empire of four millions. In Ceylon, Dr. Scudder, by his wonderful healings, eclipsed the great idol Corduswammy ; and, as in Lystra of old, they sought to worship him as a god. In China, progress has been great, and promises almost unlimited increase. In 1820, Dr. Livingston established a small hospital at Macao ; in 1827, he was followed by Mr. Colledge ; and to both of these British Medical Missionaries 'the sick, the maimed, and the blind, resorted in crowds.' In 1835, Dr. Parker, from America, settled in Canton ; and to him 'patients of all ranks flocked from all quarters.' Other labourers have joined since. Now, the applicants for relief are counted by thousands ; and, true to the apostolic plan, while they are 'healed of all manner of disease,' they have also 'the Gospel preached unto them.' So bright is the prospect of success in that vast country, that we find one of the Missionaries thus expressing himself : 'I have no hesitation in stating it as my solemn conviction, that, as yet, no medium of contact, and of bringing the people under the sound of the gospel, and within the use of other means of grace, can compare with the facilities afforded by Medical Missionary operations.' Nearer home, the labours of Dr. Kalley, in Madeira, have proved so signally triumphant as to awake the fiercest rage of the adversary ; and the very expulsion of the missionary and his converts from the island, stands recorded as the measure of his faithfulness and success." (pp. 35-8.)

Lecture II—on the IMPORTANCE OF MEDICAL MISSIONS is by the REV. WILLIAM SWAN, lately missionary in Siberia.

THE HEATHEN PRIEST-DOCTORS seem to understand and practise the same tactics as our unlicensed counter-physicians, and other empirics, who, when the case becomes alarming, or the *patient's money exhausted*, retire in favour of the legitimate practitioner ! "I have known," says Mr. Swan, "repeated instances of a heathen priest and doctor sending a patient to the Christian missionary, after he found that, in his hands, the sufferer was sinking to the grave. If the missionary's treatment be successful, the priest claims the honour of the cure in virtue of some of his own medicines, which the patient was ordered secretly to take :[1] if the sufferer perish, after being prescribed for by the Christian practitioner, his death is ascribed to his want of skill, or even to his murderous intention. It is obviously necessary, that the medical missionary ought never to take under his care a patient in the last stage of disease, without very careful preparations, and a distinct prognosis to which he can in due time appeal. Another rule is—never to undertake a case while the native physician continues to tamper with it. . . . . I have spoken of rich patients. The priests have taken care to give currency to a maxim, which has a happy effect in securing the due payment of their fees. It is this—*that the medicine which is not paid for, will do the patient no good ;* and that the skill of the physician will be exerted in vain, if his services are not adequately rewarded. Perhaps the adoption of this maxim need not be objected to nearer home." (pp. 97-98.)

Lecture III contains a description, by Mr. WILLIAM BROWN, of the QUALIFICATIONS OF THE MEDICAL MISSIONARY. We regret that we can only quote one of the concluding paragraphs.

"Let me now gather together the leading thoughts that have been spread over this address, and place them before you more briefly. The Medical Missionary must know well his profession—he must have pursued steadfastly a full course of professional discipline—he must have acquired the power of distinguishing diseases, and of applying the suitable remedies—he must have skill in operating, when he has ascertained that an operation is necessary—he must exercise his profession with ardour and perseverance—he must have

[1] Patients coming to us from homœopaths have several times secretly continued to take their globules along with what we prescribed. The mixed faith of quack-fanciers is a curious psychological study. EDITOR.

a feeling heart for the sufferings of his fellow-creatures, and a conviction that he is responsible to God for the use he makes of the remedies which are placed at his disposal—he must be conciliatory and forbearing to his neighbours and associates—he must be of a peaceable and peace-making spirit—he must be a Christian; convinced by reflection of the Divine authority of the Scriptures; feeling personally his need of that deliverance which the Gospel reveals; grateful to that Saviour who has procured the blessing to him; and determined, by God's grace, to show his gratitude, by his obedience, and by the consistency of his conduct. Conscious of his own sins and shortcomings, he has no desire to boast of his merits; and yet he thinks it no boasting to tell others, that since he became a Christian, he has been much happier than before, and that every effort he has made on the side of truth and virtue, has ever advanced his own enjoyment. Knowing that the efficiency of every remedy depends upon the blessing of God, he gladly asks, in prayer, for such a blessing; and he meekly feels that he is but an instrument, in God's hand, in all the success which attends his exertions. Being himself a Christian, he desires that others shall become Christians also. Being himself satisfied that sin is no trifle—that the displeasure of God, on account of sin, is no idle imagination, but a stern reality—that there is only one way to heaven hereafter, and one way to real, lasting happiness here, he desires that all may find that blessed path, that all may listen to the Divine Saviour when He says, 'Come unto me, all ye that labour and are heavy laden, and I will give you rest.' (Matt. ix, 28.)

"He may possess the qualifications, physical, mental, moral, which fit him for going to China, or some other far distant land. If so, he has a glorious prospect before him; because to do good to others ought to be, in subservience to God's will, a ruling motive in life, and to do the greatest amount of good, must be the best sphere of duty. But he may lack some one of these. His physical frame may be unfitted for a tropical climate; or his mental capacities may be unable to acquire an Oriental language, or to grapple with the subtleties of Hindoo sophistry; or he may shrink from the supposed dangers, privations, and toils of the professedly missionary work. In such case, he cannot have the honourable place which belongs to those who press into the van of the spiritual conflict. But he is not, therefore, excluded from it altogether. He may still enjoy the blessed privilege of serving the Lord Jesus nearer home. He is not relieved from the solemn responsibility laid upon him, of consecrating himself, and all his powers to the Saviour. The man who declines the missionary work at home, because he cannot prosecute it abroad, has no missionary spirit at all.

"The minister may be a missionary to the poor and ignorant at home; and the physician or surgeon may be a Medical Missionary to the same persons. We know that it is possible to be a Medical Missionary in Ireland; and there are many districts in that 'Emerald Isle' where there are darkened minds and yet warm hearts, and where a Christian medical practioner will do more for the moral and physical wants of the poor, than any other agent of philanthropy. And are there not in Scotland and in England not a few stations of which the same thing may be averred? We need not travel out of Edinburgh to find such stations. Many of you know the West Port, the Grassmarket, the Cowgate, the Canongate, and know that a Medical Missionary is needed in each of these localities. It is cheering to know that not a few of the practitioners in Edinburgh already fulfil that office, although no society has appointed and sent them forth. There are students also in training for the same work. They are not the least promising alumni of the University, and not the least exemplary in their deportment. The young man who, in the surgery or shop, retains his integrity when others forget it; who cultivates purity of life, when others wallow in vice; who, consistent himself, kindly, yet firmly, reproves the errors of others; who induces them to frequent the public worship of God as sedulously as the lectures of their

teachers ; who leads them to value the Scriptures, and to make them the subject of their diligent perusal ; who strives to raise the tone of moral conduct in all around him, and in himself also, up to the standard of God's law, and to the example of God our Saviour ;—that is a Missionary, and will obtain the Divine approbation, and the Divine reward." (pp. 179-183.)

Lecture IV—on the Duties of a Medical Missionary—by the Rev. J. Watson, is highly practical, and well-suited to afford information to those who contemplate entering upon the field of Medical Missions. We regret that we are unable to afford space for extracts, as they would require to be of considerable length to render them of any service to the reader.

Lecture V. When all is excellent, it is difficult to praise with sufficient discrimination ; but we can conceive of no discourse more calculated to do good among the members of our profession, than that of Dr. George Wilson, on The Sacredness of Medicine. If printed off as a separate tract, and freely circulated among medical men, it might, we believe, very eminently subserve the cause of humanity and truth. It would indeed be a blessing to society, if the majority of medical men were actuated by the principles therein laid down : and to themselves the advantages would be as great. After all, Christianity is the only safe foundation on which to rear a code of ethics suited to bind together in one harmonious brotherhood our distracted ranks, and to save them from being the prey of ill-regulated coteries, or individual assaults.

Dr. Wilson takes up high ground : but we do not think that he goes one whit too far. If a physician be a Christian, he must act the part of a Christian in all circumstances, and not abstain in the chambers of sorrow, of sickness, and of death. Rarely may it be proper for him, and still more rarely may his special and often urgent avocations permit him, to administer religious consolation with fulness and formality, but he may often pave the way for others, on whom this duty devolves. Life and health, be it remembered, are the most likely seasons for the minister's usefulness. How often, alas ! has it been our melancholy lot to witness the dying sinner seeking, when it was too late, the advice of the minister ; for, even when death is postponed, the pain, the delirium, the weakness, or the listlessness of disease, too often renders useless the needed statements and appeals. In such cases, the best spiritual friend in the sick-room is undoubtedly the pious physician. He may be able gently to instil comfort and instruction, when more formal inculcation would not be received. He may time and adapt his observations to the varying bodily condition of his patient. Thus, truly and eloquently, writes Dr. Wilson :—

"'Not poppy, nor mandragora, nor all the drowsy syrups of the world', will overcome the wakefulness of despair ; and a tortured conscience, even without the help of insanity, can often resist all the calmatives, and anodynes, and anæsthetics of the Pharmacopœia. The 'Materia Medica' has, of necessity, a moral as well as a physical department—a religious as well as a chemical or botanical storehouse, from which to draw remedies. Layman though the physician is, he is invested with some of the clerical functions ; and, though he does not share in clerical dignities or honours, he does in responsibility, and cannot throw it upon the clergyman's shoulders. He must serve at some altar, though it be that of atheism, and be the minister of a known, an unknown, or a no God." (p. 225.)

These last words are terrible ; but they are true.

We earnestly recommend these Lectures to the perusal and study of the profession : and we hope that many may go forth from among us, under the banner of the Medical Missionary Society, to bless a diseased and ruined world. Here, we must pause, reserving the consideration of Dr. Coldstream's lecture to another occasion.

(To be continued.)

Somnolism and Psycheism, otherwise Vital Magnetism or Mesmerism. With an Appendix. By Joseph N. Haddock, Surgeon-Apothecary. pp. 73. London: 1849.

In this dull weather, it is refreshing to meet with a really facetious book,—a book which makes us laugh in spite of a fog without, and bile within. We are not quite sure whether the author of the work before us is a wag who, with a grave face, has put forth a satire upon the subjects of which he professes to treat, under the sober garb of serious earnest,—a sort of Theodore Hook in a Quaker's costume, mystifying the public, (as poor Theodore loved to do in his best days,)—or, (which seems scarcely probable,) a visionary who has faith in what he writes. We incline to the former belief, and thank him for having helped us to pass, very pleasantly, what would otherwise have been a dull evening. The book is, altogether, rather of an astonishing character, like the *Travels of Baron Munchausen;* but the raciest parts are the experiences of a certain Miss Emma, a damsel "five feet two in height, of rather sallow complexion, and of a nervous bilious temperament". This young lady is supposed to be experimented on by the author, and we have met with writers of fiction less successful than he. The following is by no means bad: it indeed reminds us of our ancient friend, one Lemuel Gulliver, who visited foreign parts, and saw rather strange things. The allusion to the necessity for forbearance, lest harm should arise from over-excitement, is a masterly touch.

"Having heard of clairvoyants visiting the planets, I determined to try the experiment with Emma. I therefore proposed *an excursion to the moon*, and not then knowing how to direct her attention to such distant objects, and she herself being, at the time alluded to, wholly ignorant of the mode by which a knowledge of distant things is obtained, and fancying that she actually travelled by some mode, I suggested the *electric telegraph* as an expeditious mode of conveyance. The suggestion answered the purpose, and she was, mentally, soon on our satellite. But on that and subsequent occasions, the great excitement produced by the strangeness of what she saw, and the *distance travelled*, caused such a palpitation of the heart, as to render it necessary to *shorten the visit* by de-mesmerising her; being fearful that the great physical excitement might produce some serious effect on her health, if not immediate danger. Her description of what she saw was conveyed in very ejaculatory language, from the surprise and pleasure she experienced. Her statements were to the effect that the moon is inhabited; that the inhabitants she saw were very small—dwarfs—not larger than children on our earth; their heads were large in proportion to their bodies, and the mouth *vertical* rather than *horizontal;* their voices harsh, and rough, and resembling the sound of distant thunder; and when they spoke, the speech seemed to come up from the bowels. Their 'insides' were not quite like ours; the lungs especially were different. She saw some food, something that looked somewhat like bread, but they did not call it by that name. She saw only one animal, something like a very small pig. There *(sic)* dwellings were constructed of pieces of rocks, covered over with green stuff resembling gorse; they were very low, for she could put her hand to the top. The place did not look like what she conceived the moon to be, but a large place, and very rocky, with immense precipices and lofty mountains. The 'little folk', as she called the inhabitants, could clamber up these rocks with their hands and feet, so fast that she could not catch them. Is there any water there? Yes, 'but it does not look like our water, but more like milk and water, and yet it is clear (meaning probably that it is of greater density than our water). It lies in the bottom of hollows, and down the steep precipices. The 'little folks' can walk upon this water and not sink: they are very light. They wear clothes, but they are very simple, and all alike. They seem a good sort of people. They have a curious way of jumping on the backs of each other. A very little baby was seen in a sort of cradle; it died; they said

what signified that it had gone to sleep; but they did not mean sleep, but that it was dead." (p. 59.)

This young lady would indeed be a formidable rival to Lord Rosse, and her *long range* would beat hollow that of Captain Warner!

We have treated of this work as an amusing satire upon human credulity. Could we have supposed it written with any other object, we should have thrown it aside with indignation, as an outrage upon common sense, and an exposition of false and impious philosophy.

STRICTURE OF THE URETHRA AND FISTULA IN PERINÆO. By JAMES SYME, F.R.S.E., Professor of Clinical Surgery in the University of Edinburgh. pp. 72. Edinburgh: 1849.

The author, in his preface, states that he has been stimulated to the publication of this work by the circumstance of a plan of treatment made known by him five years ago, having met with unmerited neglect by the profession; which would certainly appear to be the case, if "it has not yet been adopted by others," so far as he knows, "even in a single instance." In this opinion, however, he is mistaken, as may be seeing by referring to p. 1068 of our volume for 1849, and p. 61 of the present number. Two objections, probably, have weighed with practitioners generally, and with patients also, against urethrotomy; namely, the repugnance entertained to so decided an operation, except in very desperate cases, and the skill necessary to enable a surgeon to perform it with that confidence which is no small element in success. We entirely agree with the author that, in cases where the life of the patient is rendered absolutely miserable by suffering produced by hopeless STRICTURE, and a thoroughly diseased Urethra, the operation described is the very best course that can be pursued; but we doubt whether many patients or surgeons will assent to the proposition that such a step is desirable "in cases of less obstinacy, but still requiring the frequent use of bougies." For so skilful an operator as Mr. SYME, it is, we doubt not, an easy matter to cut down upon the urethra, and perform the operation adroitly, and this must be taken as some explanation of his success, which has been great; but we think that the commonality of surgeons ought to pause before they cut a patient, whose case appears to admit of a fair amount of relief by ordinary treatment. The following is an account of the operation recommended. The patient "should be brought to the edge of his bed, and have his limbs supported by two assistants; one of them standing on each side. A grooved director, slightly curved and small enough to pass readily through the stricture, is next introduced, and confided to one of the assistants. The surgeon sitting, or kneeling on one knee, now makes an incision in the middle line of the perinæum or penis, wherever the stricture is situated. It should be about an inch, or an inch and a half, in length, and extend through the integuments, together with the subjacent textures exterior to the urethra. The operator then taking the handle of the director in his left, and the knife, which should be a small straight bistoury, in his right hand, feels with his forefinger, guarding the blade for the director, and pushes the point into the groove behind or on the bladder side of the stricture, runs the knife forwards so as to divide the whole of the thickened texture at the contracted part of the canal, and withdraws the director. Finally, a No. 7 or 8 silver catheter is introduced into the bladder, and retained by a suitable arrangement of tapes, with a plug to prevent trouble from the discharge of urine." p. 41.

The patient has merely to remain quietly in bed for forty-eight hours, when the catheter should be withdrawn, and all restraint removed. The urine sometimes maintains its proper course from the first, but more frequently passes in part through the wound for some hours, or it may be a few days; at the end of eight or ten days, a moderate sized bougie should be passed, and repeated once a week or fortnight, for two months. In most

cases, the cure may then be considered to be complete. Unquestionably, such a proceeding, severe though it may seem, would be considered preferable by many, whose occupations or positions in life are seriously interfered with, by the torture of a diseased urethra and an irritable bladder. We are therefore happy to assist Mr. Syme in making this operation more known, hoping that when placed fairly on its trial, it may obtain a favourable verdict.

Sir B. Brodie, in his valuable Lectures on Diseases of the Urinary Organs, describes Fistula in Perinæo as being the result of ulceration behind the stricture, from the pressure of the urine; and Fistula in Ano as being formed in the same manner, by ulceration of the rectum allowing the escape of a minute quantity of feculent matter into the neighbouring textures. From this view of the case Mr. Syme entirely dissents, describing the process as the formation of an abscess close to the external side of the mucous membrane, whether of the rectum or urethra, and having no connexion whatever with the interior of the canal, in the first instance, although a communication is subsequently formed by ulceration.

The treatment adopted by Mr. Syme, in cases of Perinæal Fistula, is simple dilatation of the urethra in the milder cases; in the more severe, he practises the perinæal incision already described.

We need hardly add, that this Essay, like every production of Mr. Syme, deserves the earnest and careful consideration of surgeons.

Essays on Syphilis. Essay I. Syphilitic Sarcocele. By J. Hamilton, Surgeon to the Richmond Hospital, Dublin. pp. 40. Plates 11. Dublin: 1849.

The Author justly observes, that a hospital surgeon of moderate observation and diligence, cannot fail to discover, in the vast mass of disease submitted to his care, something which may be considered as an addition to the knowledge already existing. Acting upon this principle, he proposes to publish essays, containing the result of his experience; and the first of the series of these is before us.

Mr. Hamilton divides the Syphilitic Sarcocele into *Simple* and *Tubercular*, the latter form being the most common. The Simple Syphilitic Sarcocele is met with in persons of healthy constitution, and is generally accompanied with secondary eruptions, occasionally by iritis, periostitis, and ulcers in the throat. Its characteristics are, ovoid enlargement of the testis, which is hard and heavy, but not painful, though large in size, and slow in progress; one testicle only is usually affected, and he has never seen suppuration occur; in this, and also in the tubercular form, there is almost always effusion of fluid into the cavity of the tunica vaginalis. In the simple disease, the treatment recommended is a steady and protracted course of mercury, which is the only certain means of cure; after the mercury has been discontinued, the hydriodate of potash may be used with advantage for a fortnight. The local treatment consists of leeches and lead lotion, if there be pain and tenderness; if not, mercurial unction to the scrotum, followed by the application of dilute ointment of iodide of potassium.

The characteristics of Tubercular Syphilitic Sarcocele are, increase of the organ in size, with irregularity of shape, and both testes are usually affected, one being worse than the other; there is much constitutional disturbance, and aggravated secondary symptoms. In this form, slow suppuration occasionally presents itself, leaving either a fistulous opening, or a protruding fungus. A combination of mild mercurial treatment, with the administration of iodide of potassium, has been found most successful in subduing this form. We are a little startled, however, at finding the mild mercurial recommended, is *ten* grains of blue pill at bed-time for a week or ten days, and subsequently, five grains. Such doses are not trifles.

We trust that Mr. Hamilton will meet with sufficient encouragement to carry out his intentions; and we hope that other hospital surgeons, with similar extensive opportunities for observation, will follow his laudable example.

THE FIRST ANNUAL REPORT OF THE HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST. Presented to the Committee of Management, by the Physicians of the Institution. London: 1849.

The valuable Report before us contains the conclusions drawn from a statistical analysis of 4,358 cases of phthisis, treated at the Hospital for Consumption, from its establishment in the year 1842, to the end of 1848.

It is arranged under the following heads:—

I. The number of patients treated, and the facts in their history which have reference to the origin and progress of Consumption.

II. Some of the principal signs and symptoms of the disease.

III. The duration of the disease and the result of treatment.

I. The entire number of phthisical patients admitted into the hospital was 888; and 3,470 were treated as out-patients. The total number of out-patients was 10,051.

SEX.—Of the cases of phthisis, sixty-one per cent, in both in and out-patients, were males; and thirty-nine per cent. females. This preponderance of males is at variance with the statement of Louis and other observers, and with the Report of the Registrar-General for 1842, which states that, in the provinces, 24,048 males, and 28,098 females, died of phthisis. It agrees very closely, however, with the report made by Dr. Home, of the cases of phthisis in the Royal Infirmary of Edinburgh, in the years 1833, 1834, and 1836, in which it is stated that of 297 such cases, 185, or 62·3 per cent., were males, and 112, or 37·7 per cent., females.

AGE. The compilers of the Report find, that, taking the sexes collectively, the period of life most liable to Consumption is, in both sexes, from twenty-five to thirty-five years of age. The disease occurred in this period of life in 953 males out of 2,679 cases, or nearly 36 per cent.; and in 578 out of 1,679 females, or in a little more than 34 per cent. Under this period, the liability is greater in females by nearly 10 per cent.; above, it is greater in males, by about 12 per cent. This difference perhaps depends, in some measure, on early predisposition, which more readily affects females, and on the occupations of males exposing them more to the exciting causes of disease at a later period of life.

SOCIAL CONDITION. The following table exhibits the social condition of 4,056 of the patients treated.

		Males.	Per centage of the total No. of Males.	Females	Per centage of total No. of Females.	Total of both Sexes.	Per cent. of both Sexes.
Single . .	Under 25	633	25·2	540	35·0	1,173	28·9
	Over 25	475	18·8	319	20·6	794	19·5
Married	Under 25	100	3·9	94	6·0	194	4·8
	Over 25	1,240	49·3	489	31·7	1,729	42·6
Widowed—All ages		66	2·6	100	6·4	166	4·3
Total		2,514		1,542		4,056	

TRADES AND OCCUPATIONS. The occupations of 4,358 patients are classified under the heads of in-door, out-door, and mixed. Of those following in-door occupations, 1,688 were males, and 1,679 (the total number) females. Of those employed in out-door works, there were 798 males; and of carpenters, painters, and glaziers, whose occupation is mixed, there were 193. "The relative liability of persons following in-door and out-door occupations to Consumption would seem, from the records of this hospital, to be as 63 per cent. of in-door males to 30 per cent. of out-door; and all the consumptive females followed in-door occupations. If it were possible to ascertain the precise number of persons engaged in the various in and out-door occupations

in London, we might, by comparing them with the numbers just stated, arrive at correct conclusions as to the effects which such occupations are calculated to produce ; but in the absence of this information, we must confine ourselves to a comparison of the apparent influence which in-door and out-door occupations have in the production of Phthisis, with that which they appear to have in inducing other diseases. At this hospital, the in-door occupations of males and females form 77 per cent. of the whole ; at a general hospital, 85 per cent. Out-door occupations form 18 per cent. of the whole at this hospital ; at a general hospital, 9 per cent. The difference, therefore, is not that which would warrant the inference, that in-door occupations in themselves have a greater tendency to produce Consumption than any other disease ; on the contrary, the in-door occupations of the patients at this hospital are 8 per cent. less than at a general hospital, whereas the out-door are 9 per cent. more." (p. 15.)

A much larger number of persons following certain employments seek relief at this hospital, suffering from Phthisis, than of those following other occupations. But we must bear in mind, that the numbers of persons pursuing different occupations vary very greatly ; and it would be desirable to know the number of persons engaged in each occupation. "This not being practicable, we avail ourselves of the means at our disposal, of comparing the numbers which represent the occupations of the consumptive at this Hospital, with those which represent similar occupations at one of the London Hospitals for disease in general. This comparison will afford us the means of judging how far such pursuits render those, who are engaged in them, more liable to Consumption than to other diseases. Thus, if we compare the 18 per cent. of out-door labourers with the 10½ per cent. of the same class who attend a General Hospital, we can say that there are nine consumptive persons of this class to five of the same class suffering from other diseases, requiring Hospital assistance. Whilst, if we compare the 3·9 per cent. of printers and compositors at this Hospital, with the 1 per cent. of the same occupation at a General Hospital, we conclude that printers and compositors are more liable to Consumption than to other diseases, in the proportion of nearly 4 to 1, and, therefore, are sufferers to a much greater extent from this disease than the class last named. Amongst clerks and shopmen, the proportions are nearly the same as the last, viz. 4 to 1. Proceeding with the comparison, we find two in-door male servants at this Hospital, for one at a General Hospital. Tailors are in the proportion of 7 to 6, &c. &c. Amongst females, the great variety and number of persons included under the designation of domestic employments, forbid any attempt at drawing inference as to the special influence of their occupations. The next class is that of needlewomen and milliners, which, whilst it represents 18½ per cent. of all the females attending this Hospital, is found to constitute 13 per cent. of the sick at a General Hospital ; thus, while the persons following these occupations are shown to be very liable to Consumption, it will be noticed that they constitute also a large proportion of those attending a general Hospital. Tailors likewise are numerous at both institutions. Clerks and shopmen, printers and compositors, as already mentioned, rank high amongst the patients at this institution. Hence the inference is a correct one, which assigns to these different occupations the power of exerting a more or less injurious influence on the health of those engaged in them ; for, whilst some are rendered liable to both Consumption and disease in general, others, who are less liable to disease in general, are particularly so to Consumption.

" In drawing these inferences, however, as to the effects of different employments, it cannot be denied that other influences are often conjoined with those necessarily belonging to the occupation itself : for example, hereditary predisposition, intemperance, deficient food, want of cleanliness, etc. These circumstances must all be kept in view, in forming any opinion as to the injurious effects on health of any particular occupation. On the other

hand, there are certain pursuits which, it may be said, almost independently of these conditions, exercise a directly injurious influence on the health of those engaged in them—particularly those which compel persons to work in close, ill-ventilated, and over-heated rooms, sitting for many hours each day in a posture unfavourable to the free action of the muscles of respiration, breathing an impure atmosphere, and restricted from taking exercise in the open air. These are the circumstances which appear to render so painfully prominent the class of clerks, milliners, printers, tailors, in-door servants, &c. Persons thus occupied soon feel the effects of these injurious influences; and if they have any tendency to tubercular disease, it rarely fails to develope itself. Several striking instances presented themselves of young men and women from the country, previously in good health, who soon fell victims to Phthisis under these circumstances. It is greatly to be desired, that the employers of such persons should endeavour to obviate these evils, by not requiring too long service, by allowing time for exercise in the open air, and by taking care that the offices, in which the employments are carried on, be properly warmed and ventilated." (pp. 16-18.)

Hereditary Predisposition. In investigating this subject, the authors of the Report have carefully borne in mind the fact, that the hereditary transmission of disease is not necessarily direct, but that a healthy, or apparently healthy generation may intervene between two in which disease is exhibited. In examining into the influence on the offspring of disease in the parent, they have inquired into the state of health of the parents of 1,010 phthisical patients. If the inquiry were extended to a preceding generation, and to collateral relatives, the influence of predisposition would probably be shewn to be still greater. The following table exhibits the result.

Sex.	Cases of Consumption.	Predisposed by Disease in Parent.	Per Cent.
Males.....	669	122	18·2
Females	341	124	36·3
Total	1,010	246	24·4

This table may be compared with the statistics of other diseases, as regards hereditary predisposition. In insanity it is found that, "in males, insanity is an hereditary disease in nearly 12 per cent. of the cases observed, while Consumption is so in 18 per cent. In females, insanity is hereditary in about 13·5 per cent., Consumption in 36 per cent. In both sexes, taken together, the per centage of Insanity is 12·5, of Consumption 24·5. Thus the probability of Consumption being transmitted to the offspring by a parent affected with that disease, is as two to one when compared with the probability of the transmission of Insanity from an insane parent." (p. 20.)

The table shows also, that daughters are more liable to inherit consumptive disease from their parents, in the proportion of two to one. As to the relative influence of the father and mother, it has been found that the father transmits consumptive disease to the sons in 59·4 per cent., to the daughters in only 43 5 per cent. The mother to the sons in 40·6 per cent., but to the daughters in 56·5 per cent. Remarkably similar results appear in the last Report of the New York State Lunatic Asylum.

II. Under the head of Symptomatology, the Report treats of Spirometer Observations and Hæmoptysis.

Spirometer Observations. Four hundred and fifteen phthisical patients have had the capacity of their lungs for air tested by Dr. Hutchinson's Spirometer. The results are exhibited in the following tables; in which, it will be observed, the cases have been carefully compared with healthy standards.

Comparison of Healthy and Diseased Cases in the First Stage of Phthisis, or before Softening. (All Males.)

No. of Cases.	Age.	Height.	Vital Capacity.		Difference.	REMARKS.
			Healthy.	Diseased.		
		Ft. In.	Cubic Inches.	Cubic Inches.	Cubic In.	
1	28	5 8	238	186	52	
2	28	5 4½	206	140	66	
3	37	6 2½	286	270	16	
4	20	5 3¼	198	120	78	
5	27	5 7	230	85	145	Both sides, and emphysema.
6	45	6 0½	270	200	70	
7	36	5 6½	222	182	40	
8	36	5 5½	214	170	44	
9	35	5 7	230	160	70	
10	38	5 10¼	254	140	114	Both sides, and emphysema.
11	33	5 7	230	80	150	Much affected on both sides.
12	28	5 7½	230	180	50	
13	27	6 1½	274	260	14	
14	24	5 6¼	222	190	32	Murmur heard over pulmonary artery.

Comparison of Healthy and Diseased Cases in the Second Stage of Phthisis, or after Softening. (All Males.)

Number of Cases	Age.	Height.	Vital Capacity.		Difference.
			Healthy.	Diseased.	
		Ft. In.	Cubic In.	Cubic In.	Cubic In.
1	27	5 6	214	86	128
2	21	5 5½	214	60	154
3	45	5 9¼	246	85	161
4	30	5 6¾	222	70	152
5	33	5 8½	238	70	168
6	26	5 6¼	222	50	172
7	28	6 0	262	70	192
8	38	5 8	238	60	178
9	41	5 9¾	246	90	156
10	42	5 8	238	60	178
11	29	5 5½	214	50	164
12	32	5 7	230	70	160
13	42	6 0	270	140	130
14	29	6 2	286	150	136

The average vital capacity of 415 phthisical patients, taken indiscriminately, without reference to the stage of the disease, was 129 cubic inches, the average capacity of the same number of healthy subjects being 222 inches. Of these, 241 were in the stage before softening, and had an average vital capacity of 149 cubic inches; 174 were in the stage after softening, and had a vital capacity of only 105 cubic inches, in contrast with 221, the healthy average.

The authors evidently—and probably justly—consider the Spirometer to be an important aid in diagnosis. It "gives distinct indications at an early period of the malady, and these indications become more obvious in proportion to the progress of the disease. For instance, in the first stage, the diminution of vital capacity, in a range of 241 cases, is 74 cubic inches; but in

174 patients, after the stage of softening, the diminution is no less than 116.

"It is proper to mention that some patients, in their early trials with the instrument, in consequence of nervousness or inexperience, do not expire an amount of air equal to their vital capacity. In such cases, therefore, unfavourable conclusions must not be too hastily drawn; but, on the other hand, whenever an individual under six feet expires his average quantity, it may, we think, be generally inferred that he is free from tubercular disease. In various individuals, in whom there were circumstances calculated to excite some suspicion of the existence of disease, the favourable indications furnished by the Spirometer have enabled the medical officers to pronounce an encouraging opinion, which, in the sequel, has been confirmed. It must be added, that various other circumstances may prevent a patient from expiring the average quantity of air indicated by his height, such as pneumonia, emphysema, hernia, or abdominal tumours, diseased heart, etc. A deficiency of vital capacity alone cannot, therefore, be considered a proof of the existence of Phthisis; but these tables are given for the purpose of showing that, where Consumption was present without any of these accidental circumstances, the vital capacity, in all the cases, was more or less diminished." (pp. 26-7.)

Hæmoptysis. Considerable attention has been paid to the occurrence of this phenomenon. In 910 males, it was present in 563 cases, or in 62 per cent.; in 471 females, it was observed in 307 cases, or in 65 per cent. The cases of *spitting of blood* by non-phthisical females, arising from irregularities peculiar to the sex, have been carefully excluded from the list. Observations on the age at which Hæmoptysis most frequently occurs, were made in 1084 cases—706 males and 308 females. The following table shows the existence or non-existence of Hæmoptysis in these, the cases being arranged, according to the sexes, in decennial periods; also the per-centage of the cases in which Hæmoptysis occurred.

Age.	Hæmoptysis occurred.		Hæmoptysis did not occur.		Total of Cases observed.		Hæmoptysis occurred per cent.	
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
0 to 5	0	3	2	4	2	7	...	42·9
5 to 10	7	32	14	9	21	41	33·3	78·0
15 to 25	124	107	85	45	209	152	59·3	70·4
25 to 35	175	59	71	42	246	101	71·1	58·4
35 to 45	115	35	48	25	163	60	70·6	58·3
45 to 55	29	7	23	8	52	15	55·8	46·7
55 to 65	3	0	10	2	13	2	23·1	...
65 to 75	0	0	0	0	0	0	...	...
Totals	243	243	253	135	706	378	64·2	64·3

"Of the 706 males, 453 had Hæmoptysis; and of the 378 females, 243 were similarly affected; being in each sex, on the whole number, in the ratio of 64 per cent. Dividing the period of life during which Phthisis occurs, according to our observations—that is, from birth to 70 years of age—into two equal intervals, viz., from infancy to 35 years, and from 35 to 70, we find in these periods respectively, that in males under 35 years, Hæmoptysis occurred in 306 out of 478 cases of the disease, being in a ratio of 64 per cent.; whilst in 301 females, at the same period of life, it occurred in 201 cases, being in the ratio of nearly 67 per cent.: hence the inference may be drawn, that Hæmoptysis is slightly more frequent in the first of these periods in females than in males. In the second period, that above 35, we find Hæmoptysis to have occurred in 147 males out of 228 cases, being again in the ratio of about 64 per cent.—very nearly that of the antecedent period in

the same sex; whilst 42 instances of Hæmoptysis were met with in 72 cases in females above the age of 35, that is, in the ratio of 54·6 per cent." (p. 29.)

The stage of the disease in which Hæmoptysis occurred was noted in 696 cases; 453 males, and 243 females. In the stage previous to softening, it occurred in 333 males, and in 176 females. In the stage subsequent to softening, or the formation of cavities, the Hæmoptysis was found present in 120 males, and in 67 females. Hæmoptysis is thus shown to be much more frequent in the first period of the disease, and nearly equally so in both sexes.

III. The Duration of the Disease has been observed in 215 cases, in which it had been ascertained with tolerable accuracy. The following are the results:

"Phthisis rarely proves fatal in less than three months, only one case being recorded as having been fatal within that period. The disease existed in 22 of the 215 cases for a period of between three and six months; of these 22 cases, 11½ per cent. were males, and a little more than 7¼ per cent. were females. In 36 cases, the disease lasted from six to nine months; of these, 19 per cent. were men, and 12 per cent. women. The disease existed for a period of from nine to twelve months in 30 cases, of whom about 15 per cent. were males, and nearly 12 per cent. females. The half-yearly periods, extending from twelve months to four years, contain, in each period, with one trifling exception, a decreasing number of cases. For whilst we observe that nearly 17 per cent. of the cases have a duration of from six to nine months, not 2 per cent. are found in the period from three and a half years to four. Fourteen persons, that is 6½ per cent., lived for periods above four years. We observe also, that considerably more than half the entire number of cases were fatal within a period of eighteen months,—the numbers being 123 to 78. In reference to the influence of sex, we observe a remarkable fact, viz., that the disease is more rapidly fatal amongst males than females: thus, of the 123 cases which terminated within eighteen months, 89, or 60·5 per cent., were males; whilst only 34, or 50 per cent., were females. After a period of eighteen months, the duration is reversed,—of 78 cases, 47, or 31·9 per cent., were males; whilst 31, or 45·5 per cent., were females." (p. 33.)

Results of Treatment. These have been observed in 535 in-patients, classified according to age, sex, and the stage of the disease. They are exhibited in the accompanying table:

Ages.	Sexes.	First Stage.						Second Stage						Third Stage.						Total.
		Relief.	Much relief.	Arrest.	Non-arrest.	Death.	Total.	Relief.	Much relief	Arrest.	Non-arrest.	Death.	Total.	Relief.	Much relief.	Arrest.	Non-arrest.	Death.	Total	
0 to 5	Males	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Females	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1
5 to 15	Males	..	..	2	..	..	2	1	..	..	..	..	1	1	1	..	1	1	4	7
	Females	2	..	..	..	..	2	1	..	..	..	..	1	..	..	..	..	1	1	4
15 to 25	Males	9	11	2	1	..	23	6	3	1	3	..	13	9	12	2	13	17	53	89
	Females	23	21	3	2	..	49	2	2	..	..	1	5	6	5	1	9	9	30	84
25 to 35	Males	11	14	3	1	1	30	9	5	..	1	..	15	18	8	3	13	20	62	107
	Females	10	10	3	2	..	25	4	1	..	..	..	5	14	6	1	7	16	44	74
35 to 45	Males	12	6	..	2	..	22	5	..	..	1	..	6	15	8	1	9	18	51	79
	Females	4	3	..	..	..	7	1	1	1	..	..	3	4	2	2	6	8	22	32
45 to 55	Males	12	8	3	..	..	23	2	1	..	..	..	3	6	2	..	2	4	14	40
	Females	..	2	..	..	..	2	..	1	..	..	..	1	2	..	..	4	1	7	10
55 to 65	Males	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	3	4	4
	Females	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1
65 to 75	Males	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1	..	2	2
	Females	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	1
All ages.	Both sexes.	85	75	18	8	1	187	31	14	2	5	1	53	77	44	10	66	98	295	535

The per-centages of the preceding results are thus shown:

Stages.	Sexes.	Relieved per cent.	Much relieved per cent.	Disease arrested per cent.	Disease not arrested per cent.	Died per cent.
First	Males	44·0	39·0	12·0	4·0	1·0
	Females ...	47·1	41·3	6·8	4·5	0·0
Second ...	Males	60·5	23·6	2·6	13·1	0·0
	Females ...	53·3	33·3	6·6	...	6·6
Third ...	Males	26·8	16·3	3·1	20·5	33·1
	Females. ...	24·7	12·3	3·8	25·7	33·3
All	Both	36·0	24·8	5·6	14·7	18·6

Among the out-patients, as far as could be observed, the symptoms in the first stage were more or less relieved in about 35 per cent.; in 33 per cent., they are much relieved; in 18 per cent., the disease appears to have been arrested; in 12 per cent., it passed into more advanced stages. In the second and third stages together, there was relief in about 23 per cent.; in 24 per cent., the relief was material; in 4½ per cent., the disease was arrested; in 48 per cent., it remained unchecked, or proceeded to a fatal termination.

Treatment. The remarks under this head appear to us so valuable, that we extract them entire:

"In making some observations on the treatment of Consumption pursued at this institution, the medical officers feel it a duty to bear testimony to the judgment evinced in the selection of a site for the hospital, and to the excellence of the arrangements for promoting the health and comfort of the patients. To those unacquainted with the locality, it will be necessary to say, that the hospital is built on a dry gravelly soil, in a suburb of the metropolis long celebrated for its salubrity, sheltered on the north and east by the whole of the metropolis, and open to the south and west; the wards are lofty, and of moderate size; the corridors light and capacious; whilst the coldness and dampness of our atmosphere, so highly injurious in diseases of the respiratory organs, are corrected by the method of ventilation devised by Dr. Arnott, and which is so arranged as to supply warm fresh air, in a continuous stream, at the rate of 2,160 cubic feet per minute, thus allowing to each patient, during that time, more than 23 cubic feet. This air reaches the wards so modified, as to keep them at the uniform temperature of nearly 65° in winter and summer. There is thus provided for the poor a climate, nearly approaching that of the southern latitudes, the advantages of which can only be enjoyed by the more favoured portion of the community. The beneficial effects of these arrangements upon the patients are strikingly manifested in the great improvement which generally takes place in their symptoms soon after admission: the cough becomes less frequent, and the expectoration diminishes; they lose the anxious expression of countenance frequently attending the disease; and strangers, who visit the hospital, often express their surprise at the quiet and comfort of the patients, and their comparative freedom from cough. It is proper to mention, that though a majority of the patients are sensible of deriving benefit from the warmth of the atmosphere of the hospital, certain individuals, owing to peculiarity of constitution or disease, find it oppressive. A similar statement applies to Madeira and like climates.

"Of the strictly medical treatment of the disease, a detailed description would be inappropriate in the pages of this Report; the medical officers limit themselves, therefore, to a brief statement of the results of the use of a few particular remedies which have attracted attention.

"Much has been accomplished, especially at the early period of the disease, by acting upon those general principles, which are familiar to every medical practitioner, for strengthening the digestive powers, correcting pulmonary congestion, improving the condition of the blood, and administering those remedies which are considered suited to particular symptoms.

"*Naphtha.* Amongst the medicines alleged to have curative powers, a fair trial has been given to pyro-acetic spirit or naphtha. There are some complications of Phthisis, such as bronchitis, attended with profuse secretion, in which it has appeared occasionally to exert a favourable influence—moderating the secretion, improving the appetite, and increasing the strength; but it was not observed to possess any specific power of suspending or ameliorating tubercular disease of the lungs; and, in many cases, it acted very injuriously.

"*Iron.* The pale and anæmic condition of many consumptive patients, and the deficiency of red globules in their blood, (as shown by the experiments of Andral and Gavarret,) naturally suggested to us, in common with the profession, the use of iron; especially as, when administered to the lower animals, this agent is stated to possess the power of arresting the formation of tubercles. It has been used in different stages of the disease, and in various forms, such as the iodide, phosphate, sulphate, sesquichloride, and citrate. During the first stage of the disease, in the absence of pulmonary congestion and hæmoptysis, it has been found useful to the extent of arresting its progress; but the utmost benefit which persons in the later stages have derived from this remedy is, an increase of strength, and a temporary improvement of general health.

"*Cod-Liver Oil.* This substance is entitled to special notice, as having been productive of more good in the treatment of Phthisis than any other agent yet employed. The earliest trials of this remedy, made on a large scale, were those instituted at the hospital; and it has now been given in many hundred cases.

"Of 542 cases, 293 were in the first stage of the disease, and 249 in the second and third, or those stages subsequent to softening; of those in the first stage, 190 were males, and 103 were females. Applying to these cases the terms already used, it will be observed that 72 per cent. of the males, and 62 per cent. of the females, had their symptoms materially improved; in nearly 18 per cent. of the males, and in 28 per cent. of the females, the disease was arrested; in 10 per cent. of the males, and in nearly 10 per cent. of the females, the disease progressed unchecked. Of the 249 patients in the second stage of the disease, 139 were males, and 110 females. In 53 per cent. of the males, the symptoms were materially improved, and in nearly 61 per cent. of the females. In a little more than 14 per cent. of the males, and in nearly 14 per cent of the females, the disease was arrested. In a little more than 32 per cent. of the males, and in 25½ per cent. of the females, the disease was not arrested. Viewing these results collectively, we find that in about 63 per cent. the symptoms were improved; in 18 per cent. the disease was arrested; and in 19 per cent. it went on unchecked. When it is recollected that, of the whole number treated at this hospital, the disease was arrested in only 5 per cent., the value of this remedy, under the use of which the disease appears to have been arrested in 18 per cent. of the cases, must be considered very great.

"Different qualities of oil have been tried, without exhibiting any marked difference in their remedial effects; but the offensiveness of some of the darker kinds renders their general use impracticable. The oil now used is straw-coloured, transparent, and free from offensive smell. Patients, in general, take it without repugnance. The dose, at first, is 1 drachm three times a day for an adult; but it is gradually increased, in some few cases, to 1½ oz. for a dose. It is usually administered in camphor-water, any aromatic water, bitter infusions, milk, or any other agreeable fluid. When there is great irritability of stomach, it has been given in mucilage of gum, with a few drops of hydrocyanic acid. In cases where there existed great anæmia and debility, and in those where the effect of the oil seemed slight, preparations of quinine and iron, especially the iodide, have been conjoined with advantage. It has appeared advantageous to intermit its use for a few days, when nausea and

feverishness, from whatever cause produced, are present. In certain cases, the use of the oil has been continued during the existence of slight hæmoptysis, without producing any injurious results.

"Other animal oils (not derived from the liver), and vegetable oils, have been tried with a view of ascertaining how far their operation resembled that of cod-liver oil. The experiments hitherto made have not shown them to possess the same powers; but they have not been as yet sufficiently often repeated to warrant decided conclusions.

"One of the most striking effects of the use of cod-liver oil is an increase in the patient's weight.

"It appears, that taking both stages of the disease and the sexes collectively, a gain of weight occurred in 70 per cent., a loss of weight in only 21 per cent.; and in about 8½ per cent. the weight remained stationary. The amount of the increase varied, being in some patients little more than one or two pounds during several months; whilst, in many, the average increase was from a pound to two pounds weekly during several weeks. Some very remarkable instances of great increase of weight have presented themselves, —thus, in one instance, 41 pounds were gained in 16 weeks; in another, 19½ pounds were gained in 28 days, and 10 pounds in the succeeding 10 days; in another case, 29 pounds were added to the patient's weight in 31 days. It must be observed, that an amelioration of the symptoms did not invariably follow an increase of weight, though the exceptions were rare. An aggravation of the symptoms and a diminution of weight were almost invariable coincidences. In a few cases the symptoms improved, though the weight remained stationary, or even became slightly diminished. It is right to mention that in some of the marked stationary in the Table, the first effects, though encouraging, were not permanent. In other cases, where the amelioration was still more considerable, and the progress of the disease appeared to have been stayed, relapse occurred, and was followed by a rapid progress to a fatal issue. That such cases do occur requires to be remembered, in order to restrain too sanguine expectations, and to prevent the remedy from falling into the discredit which disappointment after an unlimited confidence may induce. On the other hand, without entering into a description of the successive steps of amelioration experienced by patients (which have been already described under the head of Results of Treatment), it will suffice to say, that many of the cases included in the 18 per cent., in whom the disease is marked as arrested, felt themselves as well as they had been before the attack of the disease. In some of these cases there was, as already stated, a decided and progressive diminution in the local mischief. Comparatively few of such cases having returned to the Hospital after a lengthened interval, it is not too much to assume that the improvement is permanent,—it is so in some cases which are under observation.

"From these facts and a more extended experience, since the period at which this Report terminates, no other conclusion can be drawn, than that Cod Liver Oil possesses the property of controlling the symptoms of Pulmonary Consumption, if not of arresting the disease, to a greater extent than any other agent hitherto tried.

"*Inhalations* have been tried under a variety of circumstances, and with benefit to some of the distressing symptoms, such as cough and difficulty of breathing. Experiments, with a view of ascertaining the simplest means of using these agents, being now in course of trial, remarks on their use are reserved for a subsequent Report.

"*Counter-irritation* has been found useful in many cases in which local congestion existed, or in which cough and abundant secretion were distressing. In many of these cases, a solution of Iodine and Iodide of Potassium in Alcohol sufficiently strong to produce vesication, applied with a camel's-hair brush, was found remarkably beneficial.

"Night Sweats have been relieved in very many cases, by the use of Gallic

Acid in doses of five or six grains, combined with Morphia. In the treatment of diarrhœa, recent experience has shown that the Trisnitrate of Bismuth, when perseveringly administered, often proves a most safe and effectual remedy."

We hail this Report with satisfaction, as the first instalment of a series of valuable contributions to the Pathology and Treatment of Pulmonary Consumption. The physicians of the hospital at Brompton have turned to good account the means at their disposal. We hope that they will issue, from time to time, as they have promised, "equally systematic and definite illustrations, not only of subjects fully noticed here, but of others of equal interest; and thus, whilst rendering the institution useful in developing or confirming scientific and practical knowledge, as well as in relieving the objects of the charity, to demonstrate how happily the advancement of science may be combined with the exercise of benevolence."

Report on Pulmonary Phthisis as observed at the Hospital for Consumption, Brompton. By Walter Hayle Walshe, M.D., Physician to the Hospital. In *British and Foreign Medico-Chirurgical Review* for January, 1849.

This is a very able and valuable statistical document. Dr. Walshe has preferred publishing a Report of his own; and his name does not appear in the Hospital Report which we have just noticed, which is issued by and under the sanction of Dr. Walshe's colleagues—viz., Drs. H. Roe, Theoph. Thomson, G. Cursham, R. P. Cotton, R. Quain, and J. J. Bowie. In future, we would recommend conjoint reports.

Clinical Lectures on the Physical Diagnosis of Phthisis: delivered at the Hospital for Consumption and Diseases of the Chest. By Richard Payne Cotton, M.D., Assistant-Physician to the Hospital.

These Lectures recently appeared in the *Medical Gazette*. We have much pleasure in strongly recommending them to the notice of our readers.

Tic-Doloreux and other Painful Affections of the Nerves, with Suggestions for their Treatment, by means of the Aneuralgicon. By C. Toogood Downing, M.D. Pp. 73. London: 1849.

Dr. Downing being of opinion, that local applications have been too much slighted in the treatment of neuralgia, has directed his attention to the subject, and invented an apparatus with the above rather high-sounding name, which merits attention. By its means, a mild or a powerful stream of warm or hot vapour can be directed upon any part. The apparatus consists of a cylinder, in which medicinal herbs can be burnt; bellows, for maintaining a current of air through the heated mass; with tubes and cones for directing the vapour. The chief effects observed have been of a sedative character; and we can well imagine that a regulated stream of heated and medicated vapour, directed upon any spot in which the nerves are in a state of irritation, is likely to produce more powerful effects than could be caused by the ordinary sedative endermic method. Dr. Downing cites several cases, in which very remarkable benefit followed this treatment; but he has the good sense to state that it cannot supersede general treatment, and does not always succeed, but is a useful auxiliary to the common methods adopted in the management of this distressing class of affections.

We have seen great benefit result in neuralgia, from the local application of even unmedicated heat; and there is no better way of applying it, than by passing and repassing an iron, such as is used by laundresses, over the seat of pain. This is a much-esteemed, and, we believe, very useful domestic remedy in many parts of the country. When it fails, and when constitutional treatment is proving too slowly beneficial, we would certainly advise a trial of Dr. Downing's Aneuralgicon.

CRITICAL DIGEST OF THE BRITISH AND FOREIGN MEDICAL JOURNALS.

ANATOMY AND PHYSIOLOGY.

RETZIUS ON THE STRUCTURE OF THE LIVER.

Professor Retzius has examined the liver in the human being, in the dog, cat, rabbit, squirrel, pig, and ox ; and his researches have been, on the whole, confirmatory of the views of Mr. Kiernan. He has, some time since, stated his opinion that the Liver is originally acinose or lobular, but that, by various changes, the acini or lobules may become confused ; but they may regain their distinctness, under favourable circumstances. A portion of the Liver of a child six months old was examined. Before injection, the lobules were distinct ; but in the injected preparation, where the capillaries were entirely filled, there was no trace of interlobular partitions nor of cellular alveoli. The lobular structure was only shown by the white injection (white-lead), which was forced through the hepatic veins and their lobular branches into the central capillaries of the acini. The acini were thickly surrounded by an abundance of capillaries from the portal vein ; but even these did not indicate any distinct limits to the acini. In many places, the lobular capillary network was entirely filled by the injection thrown into it from the portal vein. It was evident from this specimen, that already in the sixth month after birth, the portal venous system, which has during intra-uterine life formed a part of the umbilical venous system, possesses a development far surpassing that of the hepatic vein. In large patches, especially in the right lobe, the injection, which was thrown into the portal veins, occupied the whole of the parenchyma, with the exception of the network of the hepatic ducts, and the central vessel. In other places, the injection had not passed into the finer portal twigs ; while the twigs of the hepatic artery, and the adjoining capillaries, were well filled. These arterial twigs gave a lobular or acinose appearance to this portion of the organ. This was especially the case at the surface, where the round ends of the intralobular vascular plexus were raised in the form of small white knots. The circumference of these lobules was partly uninjected, partly occupied by the network of the hepatic ducts. In the parts which the perilobular injection had not reached, there was an appearance of lobules with large interspaces ; but where it had perfectly penetrated, the smaller interlobular plexuses were entirely effaced. Where a longitudinal section had been made through the lobules, they were found, as Kiernan had represented, thickly set on the intralobular (sublobular) twigs, like sessile leaves, surrounded by a portal and biliary capillary network.

Especially interesting, in a well injected preparation, are the ultimate sheaths of Glisson's capsule, which follow the ramifications of the portal vein through the entire organ, until it gives off its perilobular twigs. Professor Retzius has been able to determine a remarkable fact, which Mr. Kiernan, though he had systematically rendered it probable, had not so successfully described,—that the biliary ducts form a network in the walls of this sheath, continuous with that in the lobules. The vessels surrounded by this sheath are, a pretty large portal twig, a somewhat smaller twig of the hepatic duct, and a small twig of the hepatic artery. These Glissonian sheaths appear to be situated where one would expect to find the perilobular septa. When the hepatic ducts are well injected, the sheaths are seen like rings, having the colour of the biliary ducts, with their walls covered or interwoven with a capillary biliary network, of as fine meshes as the lobular network. Mr.

Kiernan has without doubt seen this, and described it under the name of "vaginal branches" and "plexus". From this vaginal plexus, a network of biliary ducts proceeds in all directions, becoming interwoven throughout with the capillary vascular network; it also penetrates into the lobules. The only circumstance in which Professor Retzius differs from Mr. Kiernan, is that the latter describes as twigs or branches the extension of the biliary ducts, while it is in fact a network, in which neither stems nor branches can be distinguished.

The principal results at which Professor Retzius has arrived from the above examination, and from similar examinations of the Liver in the lower mammalia, are the following:—

1. That the Liver is originally lobular; but that the lobular structure may undergo various changes, and present various appearances of development. There may be confusion of the lobules, in conjunction with more or less regular development of the ramifications of the hepatic vein. That which is most in favour of the presence of the lobular type, is the constancy of the alveolar biliary network.

2. That the perfect biliary ducts, with their peculiar walls (the basement membrane of the English anatomists), without which they could not be perfectly injected, are regularly disposed tubes. Professor Retzius has also been able to directly to determine the presence of this membrane; and has found it, as described by Schrœder van der Kolk, a simple membrane, surrounding the angular as well as the round hepatic cells. This basement membrane may be rendered apparent by macerating a Liver in ether, then drying it, and cutting extremely thin slices. These become transparent when laid in water, and exhibit the proper membrane of the finest biliary network in single outline, surrounding the cells.

3. That no arterial network has been found in Glisson's capsule. The regular distribution of twigs from the portal vein and hepatic artery was not perceptible; but the perilobular vessels chiefly appeared as a network; and there appeared no regular or perilobular type in the larger twigs. In two other specimens from children of three years old, elegant hexagonal lobules were seen. In one of these, the injection of the hepatic artery had succeeded remarkably well. Besides the fine long twigs on the surface, each lobule had its own perilobular capillary network, of extreme fineness; but in none of these was the network of the portal vein so distinct, as the injection had penetrated into the network of the lobules, so that the periphery became less distinct. In one of these preparations, the perilobular part of the portal vein was seen giving off triradiate angular branches (*dreizweigige Eckenzweige*), as well as the regular peripheral twigs. [Abridged from *Müller's Archiv.* 1849. Heft. II.]

DE FROBERVILLE ON THE OSTRO-NEGROES OF EASTERN AFRICA.

The following interesting paper on a peculiar race of men existing in Africa, south of the Equator, was read to the Academy of Sciences of Paris, on the 5th of March last, by M. De Froberville:—

"The figures which I have the honour to bring before the notice of the Academy, have been moulded on the indigenous inhabitants of the eastern region of Africa, situate between the Equator and the Bay of Lorenzo-Marquès or Delagoa, and commonly denoted on maps by the name of Zanguebar, Maravi, and Monomotapa. During a residence of fourteen months in the islands of Mauritius and Bourbon, I have collected these anthropological specimens, amounting altogether to sixty heads and masks, all moulded on living subjects. These morphological documents are accompanied by thirty-one vocabularies of idioms spoken in the same region of Africa, by notes on the creeds, traditions, manners and customs of the original inhabitants, as well as by itineraries and a geographical chart of this hitherto little-known region.

A rapid *coup d'œil* is sufficient to recognize that the type of this race, to which I give the name of *Ostro-negro*, belongs to a negro origin. The general characters, which are most striking, and which justify the classification of these Africans among negroes, are the prognathous head, absence of mental protuberance, flattened nose, thick lips, woolly hair, and a more or less dark skin. To express myself with more precision, I would say, that these may be considered as forming a branch of the great family of subequinoctial negroes. This division is subdivided into four groups, as shewn by the casts. The first group presents analogies with the Congo-Guinean races, bordering on the west of the Ostro-negroes ; the second approaches the type of the Cafro-Bechuanians, their neighbours on the south ; the third group has a peculiar resemblance to the negroes of Oceania. The fourth group will presently occupy our attention.

The analogies between the types of the first two groups, and their neighbours on the west and south, are not easily explained by their vicinity. The more the Congo-Guinean, Cafro-Bechuanian, and Ostro-negro races are studied as a whole, under one point of view, the more is unity of origin determined. Every where there is evidence of a common parentage, even in the most minute details of social life ; and when certain traits of custom do not appear to be alike in two neighbouring people, the similarity is invariably found in a third, but more remote tribe. These intimate ethnological relations are bounded by the Equator. A community of manners with the negroes now described, is well marked among the people of Northern Guinea ; but this resemblance diminishes, as we advance north. The races of the north-east, Gallas, Soumali, and other Ethiopians, have no resemblance in manners or customs to the Ostro-negroes, and in their physical conformation only so far as they all belong to the immense negro family.

The resemblance between the third group of Ostro-negroes and the blacks of Oceania, has given rise to much perplexity. How can a conformity of type be explained in two peoples so distant from each other, and so little accustomed to navigation, and living in such different countries? Such a striking identity is not the result of chance ; there has been a common point of departure. The problem, however, still remains unsolved ; the means for its solution not having been yet matured. We possess a very imperfect acquaintance with the savages of Australia and the neighbouring islands ; nor have we discovered the link which connects them with the negro tribes scattered throughout the Malay Archipelago, the south-west of Asia, and even in the interior of the peninsula of India. All conclusions on this point would be premature ; but the fact is worthy of attention, being one of the most curious results produced by a comparison of the negro races.

I now enter on a question which we have greater probability of explaining. Besides the three groups already mentioned, there exists a fourth, originally produced by a mixture of the negro element with an element foreign to that race. I refer to the Africans with curved noses, head scarcely or not at all prognathous, and lips scarcely thick. The presence of physical characters so dissimilar and superior to those of the mass of the population would be easily explained, if it only occurred in one locality. But the hybrid type is scattered more or less equally among all the peoples of Africa, south of the Equator. It is found in the interior as well as in the maritime tribes ; from the countries bordering on the Equator to the frontiers of the colony of the Cape of Good Hope ; and, in my experience at least, it is nowhere sufficiently marked to constitute a distinct race. This geographical distribution, which makes the hybrid races on the banks of the lake Niassi (Maravi) exhibit the same degree of mixture as those of Caffraria or Quiloa, prevents us from determining, by a mere inspection of the physionomical characteristics of the Ostro-negroes, from what direction their ancestors came, and spread throughout Eastern Africa. But we see a proof, that the mixture of races took place at a very early period, and that the focus from which

have radiated the ethnological elements which distinguish these from the negro race, has long since become extinct. This conclusion is confirmed, also, by the absence of any distinction of caste, idiom, belief, or customs between those individuals who present the character of hybrids, and those in whom the negro form has been preserved in its primitive purity. The physical dissemblance, so striking to us, is entirely unnoticed by the natives.

The object of the present memoir is to inquire into the origin of the foreign element, which has thus been grafted on the original type of the Ostro-negroes. In examining into the traits of the hybrid race, we recognize a defaced imprint of the Semitic type. This is the first and clearest impression which we receive; and it is not without some confirmation. In the belief, manners, and customs of the Ostro-negroes, we find, in fact, the most striking resemblance to the ideas proper to the Semitic races. The traditions and religious rites of the Ostro-negroes have a Semitic tinge, which cannot be mistaken. The tradition of the fault and punishment of the first human pair, and of the drunkenness of Noah and his followers, the application of the name *Jiouva* to the sun, the appellation of "bow of the Good God," given to the rainbow, the idea that the meteor is a good sign, and that it drinks up the water from the earth, the observation of circumcision, the doctrine of legal impurity, and, finally, the pyrolatric worship of *Moulouk*, whose name scarcely differs from that of *Moloch*, the great Canaanite divinity in whose honour children were made to pass through the fire,—all these circumstances are so closely connected with the history of the Syro-Chaldean religions, that there can be no doubt that the Ostro-negroes are of Canaanitish origin. By inquiring more deeply into this hitherto unexplored subject, and by combining a curious local tradition with the historical accounts of Phenician navigators having sailed along the coast of Africa, we are led to recognize the fact, that the type of the hybrid race which has engaged our attention, and most of the creeds, manners, and customs which we observe in the Ostro-negroes, have been due to the residence of Phenicians among them as merchants and navigators. [*Gazette Médicale de Paris*, 10 Mars, 1849.]

METHOD OF DETERMINING THE QUANTITY OF BLOOD IN THE BODY.

The following *resumé* of some experiments, made by Dr. James Blake, Professor of Anatomy in St. Louis University, U.S., with the view of determining the quantity of blood in the body, is contained in the *Philadelphia Medical Examiner* for August 1849:

The experiments were performed by injecting a weighed quantity of sulphate of alumina into the veins, and analyzing a weighed portion of the blood. As the salt had time to be well mixed with the blood before the animal died, such an analysis would enable us to determine the whole quantity of blood, with which the salt had been mixed. The only error which might arise, would be from a portion of the salt having combined with some of the tissues, or having been rapidly excreted; and this would only affect the result in one direction, viz., in furnishing a greater quantity of blood than really exists.

The results of my experiments would lead to the conclusion, that no such source of error exists; as I find, by this method, that the weight of blood, in the body of a dog, does not amount to more than about one-eighth or one-ninth part of the weight of the animal,—an estimate much lower than that which is generally received as the quantity of blood in an animal. That this, however, is nearer the truth, is probable, from a consideration of the velocity of the circulation and the capacity of the heart; as, on the generally received opinion of the quantity of the blood, it is difficult to imagine how it can circulate so rapidly.

PRACTICE OF MEDICINE AND PATHOLOGY.

DR. FLIESS ON THE PARALYSIS WHICH ATTENDS DENTITION

Dr. Fliess, of Neusalz, has published, in the *Journal für Kinderkrankheiten*, for July and August 1849, the following memoir on the Paralysis which sometimes occurs in children during dentition.

The extraordinary progress which has been made in neuro-pathology, by the labours of English, French, and German physiologists, has only lately caused especial attention to be directed to the paralytic affections, with which young children are attacked. These affections are not unfrequent, but have been long known. By some, they have been mistaken for rheumatism, even though the child complained of no pain; while others have treated them as the effects of a blow or contusion. And we meet with cases, in which sudden paralysis of a limb has been even considered as a sign of rudeness or naughtiness, just as the nocturnal enuresis of children was until a short time ago; for which children used almost always to be chastised with rods, or in some other way, and of which we have only lately become convinced, that it depends on a paralysis of the muscles which close the bladder, or rather on an excessive excito-motor activity of those which expel the urine.

In using here the term Paralysis of Dentition *(Dentalparalysen)*, we would have no other paralysis to be understood, than that which arises from dentition. We intend first to describe the mode of attack of these paralytic affections, and then to endeavour to point out their cause.

Paralysis is much less frequent during the first, than during the second dentition; at least, we have not had an opportunity of observing its occurrence in the first dentition. It is possible that, as children at this time have not yet the full use of their limbs, the affection may more readily escape notice than during the second dentition, when the children can run about, and employ their limbs in performing various actions. We believe it, however, to be well established, that convulsions are much more frequent than Paralysis during the first dentition; and that, in the second, the ratio is changed, or, a least, Paralysis is as frequent as convulsions. We take this opportunity of remarking, that the older the individual is, the less frequently do convulsions supervene on dentition; while paralytic affections, and, at a later period, especially during the development of the posterior molars, neuralgia, are much more frequent. We shall hereafter have occasion to make use of these facts.

The attacks of Paralysis of Dentition are almost always sudden. A child is cheerful, takes exercise, and plays as usual, has a good appetite, and goes to bed in the evening apparently quite vigorous. At first, perhaps, it sleeps very quietly; but it soon throws itself about in a restless manner, groans and screams out in its sleep, grinds with its teeth, is thirsty, has some heat of head, and is rather feverish towards morning. On the next day, when perfectly awake, it is unable to use one of its arms, or, in rare cases, an arm and a leg. If the arm alone be paralysed, it hangs down; it is indeed warm, but, in consequence of the gravitation of the blood in the limbs, the joints of the hand and the fingers are blue-red and swollen. The child cannot move the arm; sensibility is either entirely lost, or is very obtuse; and the excito-motory power can but little, if at all, be excited by strong stimulation. If a medical man be summoned, who does not think of paralysis from dentition, or knows nothing about it, he does not know how to reconcile the sudden attack of paralysis with the otherwise apparently healthy state of the child, which, as has been said, has but little fever, and complains of no pain whatever. He gives it as his opinion, that the child has probably laid on the arm during the night, and pressed on the nerve; and he leads the parents to hope that, in a day or two, the effect will spontaneously be removed, just as, in a limb benumbed or asleep through pressure, the

removal of the pressure is followed by a return of its power. But when, after some days, this result does not follow, but the limb remains paralysed, and the parents become more anxious, the medical attendant is puzzled; he suspects that something of more importance is at the bottom, and he prescribes accordingly. But what does he order? Friction with opodeldoc, camphorated spirit, etc.; and then, perhaps, imagining that there is some deposit, he goes on to order friction with iodine ointment, mercurial ointment, embrocations, etc. We have seen a case, in which the rotatory electromagnetic apparatus was diligently used; nevertheless, the arm remained paralytic, and at last became atrophied. In another case, the medical attendant could not be divested of the idea, that there was a subluxation: he pulled the child's arm about, until, having had his attention called, by a colleague, to the utter loss of power in the limb, and to the great impairment of sensation, he was convinced of the existence of Paralysis.

The paralysed arm usually hangs down as if dead; and if the child at last complain of pain, it is from dragging of the muscles of the shoulder. The Paralysis sometimes extends to the leg of the same side; the child is then unable to move it, and the sensation is lost, or at least impaired. More rarely, one arm and both legs, or both arms, without the legs, are affected.

The duration of the Paralysis is very uncertain; in many cases, it lasts from a fortnight to three weeks, in others many months, and even, in some, many years, and then becomes incurable. Convulsions not unfrequently precede or occasionally accompany the Paralysis, without any cause, or from a very slight one. If the child be in a passion or annoyed about any thing, the paralysed limb sometimes become convulsed, and performs various movements which the child has not power to restrain. These convulsive movements are also produced by the use of electric shocks; or evident vibrations of the muscles manifest themselves, on the application of a continued electric current by means of the rotatory apparatus. The cases which we have observed, were not preceded by convulsions; but several colleagues have observed their occasional occurrence. The termination is not unfrequently favourable, under judicious treatment; the Paralysis passes off gradually, and at last entirely ceases, with a pricking or stinging sensation, or a feeling of formication. But not unfrequently the Paralysis is obstinate; it resists the ordinary remedies; and other symptoms, indicating an affection of the spinal cord and brain, appear. The child is attacked with dyspnœa, palpitation, twitchings of the muscles of the eyes; it begins to squint, becomes dull, falls into a comatose state, and dies. The Paralysis may become chronic; there are then no obvious indications of affection of the spinal cord or brain, but the affected limb remains paralysed, and ultimately becomes atrophied; the individual may be, in other respects, in the most flourishing health, even active and strong. Cases have been sometimes met with, in which individuals, of muscular and powerful build, have had an arm paralytic and arrested in development: and, when asked as to the origin of the Paralysis, they can give no other answer, than that they have had it from childhood, and that a cold, negligent treatment by a physician, a fall, a blow, or whatever they think must be assigned, must have been the cause.

There are, unfortunately, but few autopsies recorded, which can give an explanation of this form of Paralysis. This perhaps depends on the circumstance that the affection is seldom fatal; at most, the opportunity is afforded in chronic affections of this kind, when death has resulted from the supervention of some disease, or from an affection of the spinal cord or brain. But then the appearances presented are rather to be considered as results of the disease, which has more lately supervened; at least, it is then difficult to distinguish the primary from the secondary lesions in the brain or spinal cord.

In one case only, we have had an opportunity of making a post-mortem examination of a boy, who, while suffering from recent Paralysis of one arm,

was killed by being thrown from a carriage. This is also the case which first drew our attention to the form of Paralysis under consideration.

Case. Rudolph Meyer, the son of a tobacconist of this place, was, at birth, a strong well-made child. He was nursed by his mother, who was perfectly healthy ; and, at the end of the tenth month, he was weaned. The first dentition was easy, being attended only with slight indisposition, which made him rather lean. He soon recovered, and was apparently healthy up to five years of age. During this time, he had hooping-cough, which went through its usual course and somewhat weakened him ; but when it was ended, his health was perfectly re-established. At the end of his fifth year, he was frequently troubled with loaded tongue, some fever, heat of head, and flushed cheeks ; these symptoms soon yielded to the employment of mild purgatives. From time to time he had, for a week at a time, restless nights ; he cried out in his sleep, ground his teeth, got up as if to walk in his sleep, and was, although apparently well, very tired in the morning. One morning, on awaking after such a restless night, he had complete Paralysis of the left arm. This arm hung loosely by his side ; the hand was very red, and the joints somewhat swollen. The child could not perform any movement with the limb ; if it were raised, it was as heavy as the arm of a dead person, and fell again as soon as it was let alone. The warmth of this arm did not differ from that of the other. It felt a little colder ; but the thermometer indicated no difference of temperature. The pulse in the left arm was somewhat weaker than in the right ; but there was no difference in frequency. The boy did not feel when the arm was pinched, or pricked with a needle. This loss of sensation was more obvious on the extensor than on the flexor surface of the arm ; it was least on the radial side. Here, as far as could be gathered from his account, the boy had an obscure perception of the above-named irritants ; and, when he slept, the arm was slightly convulsed, when irritated on the radial side. In other respects, the boy complained of no pain ; he had some cough, was cheerful, played about, and scarcely troubled himself about his arm. A great variety of remedies were employed. At first, the cause of the Paralysis could not be understood ; an examination of the arm, shoulder, and spinal column shewed nothing. An examination of the mouth made it probable that the Paralysis was connected with dentition : the anterior milk-molars were found lying half decayed in the gums, and near and between them were the edges of the permanent molars, in a row in the gums. We resolved to have all the remains of the teeth extracted next day by a dentist, so as to make room for the new teeth, But, on the same day, the boy met with an accident which deprived him of life. Having been taken by his parents to see a relation in the country, he was thrown on his head from the carriage, and died towards the evening.

A careful *post-mortem* examination was made. There was a considerable fracture of the skull, and also injury of the brain, which was the immediate cause of death. But the most interesting point, was the state of the upper part of the spinal cord. This shewed, in the vicinity of the roots of the brachial nerves, a very remarkable degree of vascularity : the membranes were here reddened, and the whole circumference seemed congested ; the veins at least were here fuller, and more prominent, on the left side than on the right. There was no true organic alteration to be observed, either in the spinal cord, or in the roots of the nerves, or in the brachial nerves, so far as they could be followed. On tracing the blood-vessels, it was found that the turgescence of the veins on the left side extended on the shoulder and neck, as far as the face, where all the veins were fuller and more prominent than on the right side. The veins in the neck and submaxillary region were remarkably prominent. There appeared to be no doubt, that dentition had produced this state of the veins ; and moreover, that this congestion, having

extended to the spinal cord, had probably produced pressure on the roots of the brachial nerves, and thus induced paralysis of the arm.

This autopsy fully confirms Dr. Marshall Hall's views of the origin of Paralysis: and, although we have no other foundation than this single case, we may here lay down certain rules for treatment, leaving it to subsequent researches to determine whether they are perfectly correct. The rules, which we deduce from our observations, are the following.

1. When a child, during the first or second dentition, is suddenly seized with Paralysis of one arm, or of the whole side of the body, or is affected in only a part of the same, without any obvious external cause, this is to be considered as a *Paralysis from Dentition.*

2. An accurate examination of the mouth will confirm the diagnosis; for the teeth will be found firmly compressed within the gums. Generally the molar teeth are at fault; much more seldom the incisors; at least in those cases, which we have found recorded by various writers, where the situation of the teeth has been given, the molars have almost always been mentioned as in progress of escaping from the gums.

3. The consequence of this dental irritation is obviously an increased sanguineous congestion. In some children, this may extend to the brain, and thus produce convulsions or some cerebral affection; in others, however, the congestion is limited, for some unknown reason, to the external veins, and extends to those which are between the muscles, and even to the vertebral veins and their minutest branches, so that the roots of the brachial nerves are compressed. Hence arises paralysis, which is generally confined to that side where the dental irritation has given rise to congestion.

4. By obviating the venous plethora, the pressure on the roots of the nerves, and consequently the paralysis, is prevented. But if the congestion be intense and permanent, the pressure may produce partial atrophy of the roots of the nerves, and consequent permanent and incurable paralysis.

5. The application of stimulants to the paralysed limbs, or even the use of electricity, can produce no effect. Repeated cupping in the neighbourhood of the origins of the nerves, scarification of the gums, wrapping the paralysed limb in flannel, mild purgatives,—can alone produce any result.

EPILEPSY AND CHOREA TREATED BY PRUSSIATE OF IRON.

M. Faivre d'Esnans, surgeon to the Hospital Baume-les-Dames, has addressed the following communication to the *Journal de Médecine et de Chirurgie pratiques* for November 1849.

I have just read with much interest the article in this Journal, in which M. Molas speaks of the treatment of Chorea by arseniate of soda. I do not deny the efficacy of this medicine; but I may be permitted to offer some remarks, which seem to prove, that another substance will produce the same effect, if not so rapidly, at least as certainly.

Chorea. Case i. 1829. Mademoiselle Clotilda L., of Baume, aged 16, presented all the symptoms of Chorea. The catamenia appeared a year before, and had not been suppressed; nevertheless, this young girl, of a nervous temperament, was pale and lean; and, for a week, she had distressed her parents by her grimaces. The pupils were dilated. I at first thought she was suffering from worms, and ordered an anthelmintic powder, with essential oil of tansy. Two or three lumbrici were evacuated, but the Chorea continued. I then administered the following pills. Hydrocyanate of iron (Prussian blue) gr. i.; extract of valerian gr. xxxij. M. To be divided into 24 pills, of which three were to be taken in the day, at intervals of six hours, followed by a draught of infusion of valerian. After this treatment had been continued some days, the Chorea entirely disappeared, without a return.

Case ii. 1832. Melania R., of Mamirolle, aged 9 years, was brought to me

by her mother, who described her as labouring under symptoms which I recognized as those of Chorea. I ordered a glass of infusion of fern every morning, with two of the pills, as above prescribed, daily. In eight days, the little patient was brought to me perfectly cured.

Case III. 1839. Mademoiselle Julia F., of Baume, aged 13 ; had not yet menstruated. She had suddenly increased considerably in height, her stature being four feet six inches. She was pale and weak, and presented the symptoms of Chorea. I placed her under similar treatment, and she completely recovered in five days.

Case IV. 1843. The same success attended in the case of a young girl of the Haute Montagne, whose name I do not know. She had been ill for two months at least, with an intense degree of Chorea. Her parents had consulted all the good women of the neighbourhood and the Swiss sorcerers, who regarded her as possessed by a devil. The prussiate of iron produced its effect at the end of eight days.

Epilepsy. Case I. In despair of success, I administered the medicine to an old epileptic patient, who had been a long time in the hospital at Baume. All imaginable remedies had been tried ; but they did not prevent the recurrence of epileptic attacks, four or five times in the day. The prussiate of iron, given in doses of four grains daily, at first increased the intervals between the attacks, and at last effected their entire removal. It is now five years since this patient left the hospital ; and he has had no subsequent attacks.

Case II. 1845. Amedeus Laisné, of the hospital at Grosbois, aged 19 years, of nervous temperament, tall, pale, was attacked with Epilepsy in 1845. The prussiate of iron, in ten days, freed him from his frequent attacks. He had a relapse at the end of six weeks, but a course of thirty pills completely cured him.

Case III. 1849. Eulalia B., daughter of a wood-cutter in the forest of Voillans, in consequence of a severe fright last spring, was attacked with Epilepsy. I visited her in her miserable hut, which was open to all the winds, in the month of August. The patient was aged 22, large, strong, of a sanguineous temperament. I commenced the treatment by ordering mild infusion of balm, as a common drink. When the catamenia had ceased, I gave Prussian blue and infusion of valerian ; the attacks ceased on the tenth day. I have since had to treat a relapse of *three attacks*, which appeared at the end of fifteen days ; but I hope the disease will not return.

I have been led to employ Prussiate of Iron in Chorea and Epilepsy, by observing, in the military hospital at Strasbourg, that M. Fourdes used it in intermittent fevers. Considering that Chorea and Epilepsy were diseases connected with the spinal cord, I thought that the same medicine might be beneficial in them.

RHEUMATIC DISEASE OF THE EAR.

Mr. Harvey read an interesting and highly practical paper on this subject, at the Medical Society of London, on the 24th September. The following abstract we reprint from the *Lancet* of October 10, 1849 :

Mr. Harvey's attention was first directed to the subject, by observing the effect of rheumatic inflammation on the tissue of the eye, and from noticing, in many cases of ear-disease that came under his care, the presence of articular rheumatism, which influenced, either directly or indirectly, the ear-disease, the relief of one, for instance, being followed immediately by aggravation of the other, etc. Believing, from observation, that many such cases were made worse, and even irremediable, by mistaking the cause of the disease, and by the application of stimulating remedies, he determined on investigating the subject. The result has been, that in a great number of cases he has been able to trace the connexion of the ear affection, with rheumatism of the system generally. In the eye, the secondary attack has been usually found to come on, after the system has been well saturated by the poison of

the disease; but the ear may become affected early, the parts first implicated, as in the eye, being the fibrous tissues, and, subsequently, the nervous expansions. The disease exhibited itself under two forms—the acute or destructive, and the chronic or insidious; both, when neglected, tended to impair the sense of hearing; and the former, to the entire destruction of the organ. The acute form generally attacked males, and was connected with articular rheumatism; the chronic was more frequent in females, and was associated with rheumatism of the muscular system. The symptoms of the acute form of the disease, to which the paper was restricted, are, that the attacks are paroxysmal, usually following a seizure of articular rheumatism, tinnitus aurium, resembling the pumping of a steam-engine or forge-bellows, and generally a benumbed sensation over the temporal and mastoid regions. This was the part chiefly implicated in the disease, which, if not speedily relieved, ended in the exfoliation of the bone. Some cases were detailed by Mr. Harvey: in one, the patient was a strong, robust man, in whom the attack supervened on a severe rheumatic affection of the joints, which had been treated actively. On the entire subsidence of the joint-affection, the left ear became the subject of severe pain; there was a benumbed sensation over the temporal and mastoid processes, accompanied with a heavy, deep tinnitus. There was considerable tenderness over that portion of the head. The meatus was much swollen, in consequence of the application of hot and stimulating remedies. He had difficulty in swallowing; the left tonsil was much enlarged. He was cupped and leeched over the mastoid process, and placed under the influence of mercury with colchicum. This was pursued for ten days; the tympanum could now be seen; it was of a brownish-red colour, and had lost its transparency. The pain had diminished in intensity, but the tinnitus continued; he had occasional flying pains about the joints. Pain and tenderness continued over the mastoid process; and, though no fluctuation could be detected, an incision was made over the part down to the bone. Relief followed: he slept better. Colchicum, with quinine, was given, and the patient recovered, though for twelve months his hearing was somewhat affected. The second case was of a similar character; but owing to the obstinacy of the patient, a female, who refused to allow of any incision being made over the mastoid process, the structure of the ear was destroyed, and the bone exfoliated, notwithstanding that active and judicious means were used to prevent it. The third case was one associated with cardiac inflammation, which ended fatally; the ear-disease, under the treatment pursued in the first case, was but little benefited. In concluding his paper, the author lays great stress on the necessity of the incision over the seat of pain, and considers that, in the second case, that proceeding, if adopted, would have been as beneficial as in the first. In some remarks on colchicum, he says:—'It appears to me, that colchicum may act chemically, by producing some change in the urinary and alvine secretions, both of which it tends to increase in quantity and alter in quality; and secondly, it acts particularly upon the nervous system. If given in large doses, it should be carefully watched as to its effects. It should not be given, in a weakened constitution, without either a tonic or an opiate, and it is better to have the bowels freely acted upon at first. I have found it extremely beneficial to continue its use internally for a lengthened period, in small and repeated doses, in chronic affections of the ear presumed to have arisen from rheumatism. I have found it by no means beneficial when it produces nausea, vomiting, or purging, and more particularly beneficial when the skin secretes freely. The preparations I place most reliance upon, are the wine of the seeds internally, and the acetous extract, combined with spermaceti, as an external application.' He usually administered the colchicum wine in small doses, such as five or six drops, at first, in chronic cases, continuing the remedy for a long period. He conjoined it with a bitter infusion. In acute cases, he gave half a grain of the acetous extract, with two grains of calomel, three times a day, till ptyalism was produced.

SURGERY.

LOCAL TREATMENT OF ERYSIPELAS BY NITRATE OF SILVER, AND BY COMPOUND TINCTURE OF IODINE.

The following is interesting: "Some of our best authorities claim great relief from the use of cold applications, while others favour the employment of hot and emollient fomentations. Hog's lard, and simple molasses, have their advocates; buckwheat and rye meal, mercurial ointment, oxide of zinc, creasote, nitrate of silver, tincture of iodine, and other agents of different names and properties, are pressed into service, with equal claims of restorative power. So far as the experience and observation of your present reporters will justify the expression of their opinion, there are no substances in the whole range of the materia medica of equal value in this complaint, with the nitrate of silver and the compound tincture of iodine. Probably the weight of recorded testimony is on the side of the former agent; although the latter has been fairly tried, and proved, by ample experience, to be equally serviceable.

"Whether erysipelas requires any local treatment at all, is a question, in the minds of many judicious and skilful practitioners, that is yet unsettled. The disease is asserted to be dependent upon a morbid condition of the blood; and the constitutional injury arising from this change, it is said, can only be repaired by means that are calculated to improve the vital fluid, or to secure the abstraction of a portion of it from the body; but, whatever may be the pathological condition of the blood, experience proves, most conclusively, that sedative external remedies exercise a controlling power over the cuticular inflammation, which cannot be exerted without them.

"The cutaneous disease is occasionally the only morbid change which is exhibited by post-mortem examinations; and there is much reason to believe that the property of contagion, which belongs to the malady, resides in the inflamed and often abraded surface. When the inflammation is seen involving the face and head, rapidly insinuating itself towards the inlets of the brain, with sacs containing purulent matter presenting themselves upon the inflamed surface, and threatening to attack the sensorium, the question is one of the most solemn import, whether we are justifiable in not employing some direct means for its arrest. To cure disease, is our high calling. If we cannot cure, we are bound to guard, as far as we can, those portions of the citadel, that are not the seat of disorder, from being overtaken and destroyed. The simultaneous occurrence of erysipelas and puerperal peritonitis, has often been a subject of interesting and useful inquiry among physicians. There has been no puerperal epidemic disease within the knowledge of your committee; but, as evidence of there being great danger of communicating to parturient females the contagious virus of erysipelas, it may be stated that while recently visiting a patient with this disease, and engaged in making applications to the inflamed part, the writer was called to wait upon a female in labour. Under the apprehension that there might be some danger of communicating the disease, the examinations per vaginam were as few and as rapid as circumstances would justify; but the case being very tedious, and requiring the employment of forceps, the hands were necessarily brought into contact with the mucous coat of the vagina; and, though they had been thoroughly washed, the patient barely escaped with her life, from an attack of puerperal fever, attended with an offensive discharge from the uterus, and an acrid secretion from the vaginal walls. The infant, at the age of about two weeks, was seized with a severe attack of erysipelas, invading the head and shoulders, and extending down the back. The integument became extremely indurated, the skin assumed a dark, livid hue, and the little sufferer died on the third day, in a state of coma. A similar case occurred not long

since, in the practice of another member of your committee, and the infant died with erysipelas about the nates, between the third and fourth week." [*Report of the Standing Committee for the Western District of the New Jersey Medical Society*, Dr. J. PARRISH, Chairman; in *the New Jersey Medical Reporter*, for July, 1849.]

NITRATE OF SILVER AS A LOCAL APPLICATION IN ERYSIPELAS.

The efficacy of the application of the Nitrate of Silver in limiting the spread of Erysipelas is undoubted. The very general voice of the profession says so: and in our own experience the practice has rarely failed to produce this result to a greater or less extent. Still, accidents may occur. DR. JOHN C. HALL, of Sheffield, states, that "Sir Benjamin Brodie never uses the Nitrate of Silver in Erysipelas, he considers it 'dangerous'"; and "knows of two cases in which there was reason to believe that the determination of the inflammation to internal organs, and the death of the patient, was the consequence of the application of the Nitrate of Silver to a local surface affected with Erysipelas". As the disease is constitutional, and not merely local, the repression of the outward inflammation may often be most improper. We refer to the *Lancet* of August 18th, and September 8th, 1849, for a very full and instructive digest of the opinions of the most eminent surgical authorities on this subject, by Dr. John C. Hall.

EXCISION OF THE HEAD OF THE FEMUR. DR. COTTON'S CASE.

At pages 195 and 774 of the volume of this JOURNAL for 1849, we gave some account of the controversy between Messrs. Syme, Fergusson, H. Smith, and other surgeons, on the subject of Excision of the Head of the Femur. The following case, which is recorded in the *Provincial Medical and Surgical Journal* for December 12, as having occurred in the practice of Dr. C. COTTON, Surgeon to the West Norfolk and Lynn Hospital, promises to be successful, though the patient still remains under treatment. The reporter of the case observes, that "although, in its present stage, no confident prediction of permanent benefit can be hazarded, nevertheless, an auspicious commencement, and upwards of seven weeks progressive amelioration, create a hope that the constitutionally-depraved condition of the system may in a degree expend itself through the outlet still existing at the hip, and that the skin ulcerations, resulting from long pressure, may be obviated, by the further favourable progress of the case allowing of a more frequent change of position. But whatever the termination—*temporarily amended health only*, protracted disease, or death from phthisis—it must be conceded that the operation, severe and formidable as it may appear, has, at least in this instance, given a chance of life, and afforded marked comfort and relief to a hopelessly-deformed girl, who, harassed by pain, and worn down by slow and wasting hectic, must, had she survived, have remained in a crippled and pitiable condition to the end of her life."

CASE. Jessie Bullen, aged 12 years, was admitted into hospital September 16th, 1849, with hopeless disease of the right hip, said to have commenced nine months ago. She is a pale, delicate child, of scrofulous habit. She lies on her back, inclined to the left side; the limbs are drawn up and contracted; and there is observed a large open sore over the right hip, which discharges thin, curdy, purulent matter. The least movement causes agonizing pain. Both ankles are excoriated and ulcerated; and there is a painful bed-sore over the ribs, near the spine, on the right side. The circulation is hurried, the appetite capricious, and the stomach ticklish, but there is almost an entire freedom from cough. Ordered to have cod-liver oil judiciously administered, and any agreeable nutritious diet. Apply linseed poultice twice a-day to the hip.

28*th*. Improved in appearance, and has gained flesh. The oil has been

taken regularly, except an occasional discontinuance, owing to the stomach being deranged.

October 6th. Renewed hectic excitement, pain, and exhaustion; loss of appetite; partial sweating, and restlessness. A large circular sore over the right hip disclosed the great trochanter, covered with florid granulations, prominently protruding; and, on passing the finger through the posterior part of the opening, the head of the femur was easily reached, and found dislocated on the ilium, lying in the centre of a large abscess; the limb was drawn up and shortened; the knee rigidly flexed and immoveable, and fixed a little above and on the inner side of the opposite knee, which was also stiffly contracted, and drawn upwards and inwards. As it was evident the patient must sink, unless some operative proceeding was resorted to, and as chloroform inhalation promised to obviate the pain and tediousness of the operation, it was determined, in consultation, to perform resection of the head of the bone; there existing no positive indications of organic mischief, or of the disease extending to the pelvis, or beyond the upper part of the femur.

12*th.* The patient having been rendered unconscious by the administration of chloroform, Dr. Cotton proceeded to make an incision through the hypertrophied and ulcerated tissues, about five inches in length, commencing above the head of the bone, and terminating below the protruding trochanter. This was afterwards slightly prolonged, to facilitate the sawing of the bone. The soft parts were then cautiously dissected away and separated, and the head of the femur made to project through the wound, by forcibly twisting the limb inwards. The portion of bone to be removed was then grasped firmly in the operator's left hand, and a section made by a common saw, in an oblique direction, through the great trochanter and neck of the femur. The bevelled end of the bone being in a diseased condition, the saw was again immediately applied, and a slice about a third of an inch in thickness removed, the section apparently terminating just *above* the lesser trochanter. The joint-cavity, on examination, was found filled up with a mass of soft granulating deposit. An ineffectual attempt, owing to the friable state of the tissues, was made to secure one vessel, which at first spouted out rather freely; but no hæmorrhage of importance occurred. On the removal of the patient to bed, the limb, now set free in the hip, was brought into as good a position as the contracted knee would admit, and steadied by means of a long splint, on the outside. Tenotomy of the hamstring tendons was left for a future proceeding, should the case do well. The chloroform inhalation answered admirably; some hysterical sobbings followed its withdrawal, and the girl complained of much pain in the right knee. Ordered Liq. Opii Sed. (Battlei) m. xv., ex Syrup. statim. Milk and toast-water diet.

13*th.* Became quiet and composed towards the evening, but was restless during the night, and a slight hæmorrhage took place from the wound. Has dozed much this morning, but still complains of pain at the knee, and of being cramped at the ankle. This was relieved on loosening the bandage. A slight sanguineous oozing continuing, the wound was dressed with lint moistened with a solution of matico; and the following draught was prescribed to meet irritative feverishness: ℞. Liquoris Ammoniæ Acetatis 3j; Tincturæ Hyoscyami m.x.; Vini Ipecacuanhæ m. v.; Syrupi Papaveris 3ss.; Aquæ 3x. Fiat. haustus tertiâ vel quartâ quâque horâ sumendus.

18*th.* Though composed, and free from pain, there is slight fever, and a disposition to diarrhœa. Has required a dose of astringent mixture. Bed very foul and offensive. The thigh appears shortened, and the end of the femur may be seen projecting within the wound, owing to the unavoidable cocked-up and contracted condition of the knee. The complete influence of chloroform having been induced, the patient was moved to an adjoining bed, and placed upon a sheet of gutta percha web. Dr. Cotton then, grasping

the thigh with the left hand, and the leg with the right, gradually but forcibly *straightened the limb. During the extension, the integuments of the ham were torn across, and the lacerated edges drawn a finger's-breadth apart.*[1] (Subcutaneous section of the tendons was dispensed with, as it was evident that the whole of the tissues, from long faulty position, contributed to keep up the contracted state of the knee.) A straight Liston's splint, reaching from the axilla to beyond the foot, and previously shaped so as to admit of easy access to the hip, was now applied, and secured by a bandage to the limb, and further steadied by a wide web belt carried round the body. All this was accomplished with but little apparent discomfort to the patient, who only whiningly complained of the knee, on recovering from the effects of the chloroform. Water dressing. A well was formed to receive the discharge, by placing a heavy weight on the outside of the splint, near to the wound.

19*th.* Easy and comfortable, and pleased with the straightness of the limb. Hopes in time to overcome the contraction of the other knee herself. The end of the femur is well imbedded in the soft parts, and cannot now be seen in the wound.

The subsequent reports were altogether favourable; she had tonic medicine, nourishing diet, and cod-liver oil for a week.

Nov. 19*th.* The improvement in general health has continued; she has no sweats at night, nor cough; less running of the pulse, and the cheeks flush only when the hip is dressed; the sore in the ham, from the integuments yielding, is slowly healing. Fearing an operation upon the left knee, she, assisted by the nurse, has very much overcome the contracted condition of the limb.

28*th.* Better; limb easy; very good appetite; thinks she will soon sit up in bed; the wound, at the seat of the operation, does not now equal in size that of the sore through which the trochanter originally protruded; the edges are rounded, and skinned over; the base is hollowed, and coated with dirty yellow shreddy lymph; the discharge has much diminished. Dress with resin ointment.

Dec. 3*rd.* Can move herself in bed, and admits of being raised for a short period to a semi-upright posture with but little inconvenience; hip-wound stationary; the draining slightly increased from the ointment; bed-sore and other ulcerations healing; the limb lies extended upon a pillow, loosely supported by foot-splints; the left knee still remains much contracted. She still remains under treatment.

The portions of bone removed measured, (by a tape drawn from the point of insertion of the round ligament to the upper edge of the section,) over the head, curve of the neck, and the great trochanter, four inches and three-quarters; and from similar points below, two inches and a half. The head of the bone was denuded of cartilage; and a carious cavity, admitting the end of the finger, existed at its under surface; the under part of the neck was also softened and damaged by caries. The trochanter and remaining shell of the bone retained a seemingly healthy firmness. The cancellous structure was filled with pale yellow lardaceous pus.

VULCANISED INDIA-RUBBER IN SURGERY.

Vulcanised Caoutchouc has now become very common in the arts, and is likewise used in surgery. A systematic and extensive application of this substance has lately been made at Paris, for surgical purposes; and Dr. Gariel presented to the Surgical Society of that capital, on the 19th of September last, a series of apparatuses, made of vulcanised caoutchouc, for

[1] Would not gradual and frequently-repeated extension, though the object were longer in being accomplished, have been equally efficacious, and less productive of suffering to the patient?

traction, compression, confinement, dilatation, suction, &c. Dr. Gariel prepares the substance by dipping the caoutchouc into a saline bath, and thereby renders the India-rubber perfectly and regularly elastic, gives to it an immense force of cohesion, prevents fatty bodies or the most energetic chemical agents (nitrate of silver, nitric, sulphuric, and muriaric acids, &c.) from acting upon it, and causes it to preserve its elasticity at extreme temperatures. It should be remembered, that ordinary caoutchouc possesses none of the above-named properties. One peculiarity pervades the numerous kinds of apparatuses which Dr. Gariel laid before the Society ; and that is, a very ingeniously-contrived mode of insufflating various tubes, when placed upon, or introduced into, the body, thus giving them a greater diameter, and increasing their power of pressure at will. We may mention a tube used for arresting epistaxis, which will plug the posterior nares on being insufflated. Pessaries, and a great number of variously-shaped cushions, intended for many different surgical uses, are also made to change their sizes at will, by filling them more or less with air. The Society expressed its highest approval of these applications of Vulcanized Caoutchouc. [*Lancet*, 1st Dec. 1849.]

URETHROTOMY FOR THE CURE OF STRICTURE.

In connexion with the extracts which we have given from Mr. Syme's work, at p. 35, the following passages, abridged from our weekly cotemporaries, will be read with interest.

Mr. Fergusson, on the 1st December 1849, operated upon a patient suffering from a bad Stricture of the urethra, complicated with perinæal and scrotal fistulæ. He had laboured under Stricture for many years ; had neglected himself ; fistulæ had formed, through which nearly all the urine came away. He had not had a catheter passed for a long time previous to his coming into the hospital, and, on admission, Mr. Fergusson discovered that he had a cartilaginous Stricture at the bulb, through which it was impossible to pass any instrument.

The patient was placed fully under the influence of chloroform, and a small catheter was attempted to be introduced, but it was found useless to endeavour to pass it further than the obstruction. He was then tied up in the position for lithotomy; and, the catheter being retained, a free incision was made in the middle of the perinæum, through the hardened tissues, until the point of the knife impinged upon the catheter. The urethra was then opened, and the Stricture was freely divided its whole length towards the bladder. The catheter was then changed for a larger one, which, after another incision or two, was carried along into the bladder, and there retained. There was not so much difficulty as usual. This operation (in those cases which really require it) is one of the most difficult in surgery; nevertheless, there is very little hazard, when it is performed in the cautious and skilful manner practised by Mr. Fergusson. This gentleman promised the pupils he would make it the subject of a Clinical Lecture. [*Medical Times*, 8th December 1849.]

An operation of a somewhat similar character was also performed on the 8th December, by Mr. Fergusson.

The patient had suffered, in the most literal sense of the word, from a bad Stricture of the urethra for about twelve years, and he had been under the care of Mr. Fergusson at a previous period. The Stricture was, at that time, exceedingly irritable and undilatable ; and, although a moderate-sized catheter could be passed through it, so little relief was obtained, and there was so great a tendency in the urethra to contract again, that it was determined to cut him. He was actually brought into the theatre for the purpose of being operated on, at the same time that an operation, of a similar character, was being performed on another patient ; but Sir Philip Cramp-

ton being present, recommended Mr. Fergusson to abstain from the proceeding, and, instead, to put the patient under the influence of chloroform, introduce as large a sized instrument as possible, and keep it in the bladder. In deference to so high an authority, Mr. Fergusson pursued this course of treatment; but, after remaining in the hospital some time, the patient left much in the same state. In the course of six months, he was again admitted; and Mr. Fergusson proposed the division of the Stricture, to which proceeding the patient willingly consented to submit. The operation was done in the following manner: A No. 6 staff, with a groove in its centre, was passed through the Stricture; the knife was then carried through the centre of the perinæum down upon the groove, along which it was slid against the Stricture, until the whole was divided; an elastic catheter was then introduced, and retained.

This operation is similar to one recommended by Professor Syme, only there is this difference: the Edinburgh Professor divides the Stricture from behind forwards, whilst Mr. Fergusson cuts from the urethra towards the bladder. The great principle is the same—namely, *the introduction of a director through the Stricture*, upon which the division is made. The operation in this case was comparatively simple, far different from that performed on the first, where no instrument could be passed, and where the structures of the perinæum were extensively diseased; and Mr. Fergusson, in some sound and practical remarks, forcibly contrasted the two proceedings, and pointed out the cases in which each operation was applicable. [*Medical Times*, 15th December 1849.]

Mr. Quain, of University College Hospital, has also been treating Stricture upon the same principle. The following case we give from the *Medical Times*, of December 15:

Stricture of Urethra—Fistula in Perinæo—Operation. James Graby, aged 54, was admitted September 17, under Mr. Quain, with stricture of urethra, traceable to repeated attacks of gonorrhœa during the last eight years. Retention of urine occurred twice during that period. In 1848 an abscess was formed in the perinæum, after an attempt to pass an instrument along the urethra. This patient is a spare, thin man, with an anxious, care-worn countenance. At the junction of the scrotum and the perinæum, and in the median line, is a fistulous opening, with the tissues much thickened and indurated around. The stream of urine is exceedingly small, and there is frequent desire to pass it. With each effort, a few drops escape through the fistula. The introduction of bougies was almost invariably followed by rigors; and the Stricture was not improved by their use, for, though on more than one occasion dilated to some extent, it again quickly returned to the original very narrow state.

November 29. Chloroform having been administered, a full-sized wax bougie was passed down to the Stricture, and marked with reference to the meatus. The smallest lithotomy-staff being found too large to pass through the narrowed part of the urethra, a very slender straight director, with the extremity slightly bent, was introduced along the whole length of the canal without any difficulty. [This instrument was constructed with reference to the present case.] The patient being then put in the position for lithotomy, incisions were made into the urethra through the fistula and the surrounding indurated substance. The depth was very considerable, the tissue cutting like cartilage. After the urethra had been laid open for about half an inch, the director was withdrawn, and a good-sized catheter passed down; but this instrument was arrested beyond the incision in the canal, the whole of the Stricture not having been cut through. The director being now re-introduced, the incision previously made in the urethra was continued backwards. The catheter then slipped in easily.

Mr. Quain stated, that if the fistula and surrounding tumour had been

at the side of the perinæum, the operation would have been a more easy one; for, in that case, the incisions would have been made in the middle line, without regard to the tumour. He added, that he had to perform the operation without a measure of the length of the Stricture. The position of the anterior end of this was determined with a bougie, and that of its posterior might have been sufficiently ascertained beforehand, if the fistula admitted a probe to pass into the urethra. But as it was impossible to make a small director penetrate any distance along the fistula, he had to divide the Stricture by two separate incisions.

December 1. Catheter removed, having been retained since the operation without any incovenience.

These reports abundantly testify to the importance of Mr. Syme's operation, and likewise to the fact, that proceedings of a like nature are not neglected by metropolitan surgeons. By referring to p. 1068 of our Number for November, it will be seen that urethrotomy was advocated by Mr. H. Smith, at the Westminster Medical Society, on the 5th of May 1849.

MATERIA MEDICA AND PHARMACY.

MR. NUNNELEY ON ANÆSTHESIA AND ANÆSTHETIC SUBSTANCES.

Mr. Nunneley's valuable paper, in the *Transactions of the Provincial Medical and Surgical Association*, is of too great length to permit our giving more than an outline of its contents. He has been led to make the series of investigations, whose results he has presented to us, by the consideration that the information we possess respecting Anæsthetic agents, "is neither sufficiently extensive, nor of that precise character which is absolutely necessary to enable us to arrive at an accurate and certain conclusion as to their practical value, and the circumstances in which, and under which, they, or any of them, should be employed or not: in fact, hitherto their use has been mainly, if not altogether, empirical,—not founded on any rational basis. The intention of the present inquiry is to assist in affording that information, and to furnish evidence from which such inferences and deductions may be fairly drawn, as shall, if possible, render their practical application as safe and certain as the nature of the case admits." To the particular subjects of inquiry, and the answers which have been furnished by experiment, we shall presently recur.

Chemical Nature of Anæsthetic Substances. These are nearly all compounds of the hypothetical radical ethyle (C_4H_5)—the assumed base of ether; combinations of hydrogen and carbon with oxygen, as an oxide of ethyle—sulphuric ether (C_4H_5O); or combinations of this oxide with an acid, as nitric ether (C_4H_5O, NO_5); or of hydrogen and carbon with chlorine instead of oxygen—chloroform (C_2HCl_3). These bodies are all hydro-carbons; one substance, of somewhat analogous character, has been shown to possess, to some extent, similar properties, in which the carbon is combined with sulphur—the bisulphuret of carbon (CS_2). From reflecting on this circumstance, Mr. Nunneley was led to the supposition, that "where hydrogen and carbon might be supposed to constitute an hypothetical radical or base, whether as ethyle, acetyle, methyle, or some other modification, they might be combined with another body; which body might be replaced by another element, the properties of the compound to a great extent remaining." Thus ether, as a base, might be combined with various acids, capable of being substituted for each other, the general character of an ether fluid remaining; and the chlorine of chloroform might be again replaced by iodine, nitrogen, sulphur, or some other element, the new compound having similar properties to the old. Hydrocyanic acid affords some confirmation of this view. "This", says Mr. Nunneley, "is in some degree an extension of the beautiful theory of substitutions now so generally admitted among chemists,

applying the same doctrine to the therapeutic and physiological properties of isomorphous bodies, as has long been known to prevail in their chemical qualities."

The substances tried, and of which the effects are recorded, are the following:

Chloroform
Alcohol
Spiritus vini of the Pharmacopœia
Sulphuric ether
Spiritus ætheris nitrici, Ph. L.
Nitric ether
Acetic ether
Chloric ether
Chloroform and spirit of wine, mixed
Hydrochloric ether
Hydriodic ether
Hydrobromic ether
Dutch oil, or chloride of olefiant gas
Oleum æthereum, Ph. L.
Heavy oil of wine
Aldehyde
Two or more of these mixed together
Iodoform
Olefiant gas
Light carburetted hydrogen
Coal gas
Benzole
Camphor
Naphtha (three varieties of)
Oil of turpentine
Creasote
Protoxide of nitrogen
Hydrocyanic acid
Coneine
Hydrogen
Carbonic acid
Carbonic oxide
Bisulphuret of carbon
Sulphuretted hydrogen
Bromoform

The mode of administration has been by—1. Inhalation, in various degrees of concentration, for a limited period. 2. Inhalation for a prolonged period. 3. Internal administration, by the stomach and rectum. 4. Injection into the veins. 5. Limited application to the skin—local action.

The post-mortem appearances are given in each experiment, when death has been occasioned.

Experiments. The animals submitted to experiment were taken from the four classes of the vertebrate division, and some of the invertebrata were also used; but, for several reasons, dogs and cats were principally employed. The variety has been sufficient to shew, that the effect, throughout the animal kingdom, is uniformly of the same kind, and therefore the same in man; and, hence, in applying the practical inferences to him, we are not very liable to be wrong.

The details of 363 experimenis are given; and, from the care which has been taken in recording them, they must form a most valuable contribution to our knowledge of the properties and effects of Anæsthetic agents. To insure accuracy, Mr. Nunneley says, that "in no one case was the record left to memory; in every case, as the experiment proceeded, were the effects written down on the spot."

Effects of the Substances Individually. Having given his experiments in detail, Mr. Nunneley makes some remarks on the effects produced by each substance. From these we can only make a few extracts.

Chloroform. This is one of the most, if not the most, agreeable Anæsthetics with which we are acquainted, and, at the same time, possessed of very considerable power. "It is, for the most part, pretty constant in its action; but I am also bound to add, it is one of those which require more care in administration than most of the others, and, I would venture to say, much more care than has always in practice been exhibited. It is true, that many fatal cases, in which it has been given, are known; but, I am firmly convinced, there are many more fatal cases which have not been reported. Even in those cases which have come to light, all sorts of explanations, and attempts to explain away the true cause of death, have often been attempted, rather than admit the fact of the person having been killed by the Chloroform. This is, perhaps, scarcely to be wondered at; the admission of the fact would be almost like acknowledging being accessory to the death of the patient, which most men naturally shrink from. A careful examination, however, of

the preceding experiments, cannot, I think, but convince any impartial person that, in reality, death in these cases was caused by the Chloroform; either from some abnormal condition or peculiar idiosyncrasy, by which the person was rendered unusually susceptible to its influence; or, as I believe, far more frequently from a want of that experience and care in its administration, which the exhibitor should have possessed and attended to. When I see statements by medical men, that they have 'boldly administered' Chloroform, in quantities of from six drachms to an ounce-and-a-half at a time, without any ill effects, I cannot but congratulate both the patient and the doctor, that the rashness in employing such quantities has been equalled by the carelessness in administering it, so that by far the greater portion of the fluid has been wasted by escaping into the air of the room, rather than passed into the lungs of the inhaler, and thus the carelessness of the administrator has, contrary to what generally occurs, and which he would do well not to risk again, been the means of escaping from the effects of his rashness.

"Two very important practical points, in reference to the administration of Chloroform, appear to be proved by these experiments.

"1st. That the effects produced upon similar animals by like quantities of Chloroform, all circumstances, so far as can be ascertained, being precisely similar, are not identical, the effects being far more considerable in one than in another: even upon the same animal the effects are far more decided at one time, than they are at another." (p. 319.) This is demonstrated by a comparison of the following experiments, among others.

"(Experiment 5.) I applied, by means of a damp, warm sponge, thirty minims of Chloroform to the mouth of an active terrier dog. At first it struggled hard, but in thirty seconds became quiet and breathed deeply, with dilated pupils; the saliva freely dribbling from the mouth. The sponge was retained over the mouth and nose during five minutes, when, the Chloroform being exhausted, it was removed; the dog was not insensible, and when let loose, immediately ran about and rubbed his neck and body very violently. After seven minutes, a second dose of thirty minims was administered, in a precisely similar manner to the first; in two minutes and a quarter, there was neither sensation nor reflex action, but an indication of distress by the noise in breathing; at six minutes, there was panting respiration, with blowing motion of the cheeks; all the other muscles being perfectly motionless and flaccid. The heart could just be perceived, with a quick, fluttering, motion, until nine minutes, after which there was no indication of life." (p. 177).

"(Experiment 7.) A strong, but not very large, rough-haired water-dog, inhaled from a sponge wrung out of water, temperature 120 degrees, seventy minims of Chloroform. He inspired deeply and quickly, so as to inhale it rapidly; he struggled hard at first, but became affected in a minute; never lost sensation nor sensibility. The sponge was removed at five minutes, before which time the whole of the Chloroform was exhausted. The only effect was, that he appeared rather weak on the legs, and rubbed his neck and breast with considerable force upon the floor. In a quarter of an hour, the experiment was repeated; temperature of water, 100 degrees. Did not struggle so much as last time, and breathed steadily and deeply. The sponge was removed at five minutes, the Chloroform being completely exhausted. He was unable to stand or move; no sensation, but reflex action remained; at nine minutes, muscular power returning, as in sensibility; twelve minutes, can now see; eighteen minutes, able to run, but falls every now and then, the muscles being tremulous and weak. In twenty-two minutes afterwards, experiment repeated; struggled very little; not insensible until the expiration of five minutes, when he lay perfectly helpless without sensation, but gradually recovered. In twenty-five minutes afterwards, experiment repeated; in three minutes, respiration became quick and stertorous, then

more feeble ; sponge removed in five minutes, as in the other experiments, the Chloroform being exhausted ; dropped insensible and motionless, except respiring quickly, but feebly, the heart pulsating rapidly ; in fourteen minutes could see, and perceive the indications of a threatened blow, but was unable to move ; at eighteen minutes began to move, and in twenty minutes was able to stand, with the legs very straddling and wide apart. The motions bore a strong resemblance to those of an animal recovering from prussic acid. For twenty-four hours after, he appeared dull, and not disposed to eat much ; on the following day he made his escape, being perfectly well and active again." (pp. 177-8).

The different effects on the same animal are most unequivocally shewn in the following experiments.

"(Experiment 16.) A full-grown cat inhaled not quite one drachm and a half of Chloroform from a sponge. She immediately struggled hard, and passed urine in a stream of considerable force. In one minute and a half, sensation and reflex action were quite lost ; she lay perfectly still without respiring, but the heart beating rather rapidly, until five minutes, when there was some little respiratory movement, which gradually became very rapid, during which time the pulsations of the heart became excessively quick, amounting to nearly three hundred per minute, as far as could be counted ; at seven minutes, some sensation and reflex action had returned. The sponge was removed from the mouth at ten minutes. She lay across the knee as though asleep, but with motive power gradually returning, and gradually awakening, when she slipped off the knee and sat crouched down, and for awhile she was indisposed to move, but in a short time was quite well again.

"(Experiment 17.) To the same cat as last, two days afterwards, and being perfectly recovered, I gave, by inhalation, in the same manner as before, forty minims of Chloroform. In one minute and a quarter, sensation and reflex action were lost ; she continued to lie still and breathe quickly and slowly until five minutes, when for a minute the respiration became rather spasmodic, after which it ceased. The heart could just be felt moving until eight minutes, after which there was no indication of life." (p. 183.)

The intensity of the effect appears much rather to depend upon the quantity of Chloroform inhaled in a given time—the concentration of the vapour, than upon the absolute quantity inspired. A small quantity, suddenly and quickly inhaled, will produce more rapid and decided—and at the same time more dangerous—effects, than a much larger quantity taken more slowly. The following experiments are illustrative of this.

"(Experiment 13. Vapour not concentrated, but inhalation prolonged.) A full-grown, but rather small, cat was put into a covered glass vessel, holding three hundred and seventy-five cubic inches, with one drachm of Chloroform. She immediatly became uneasy and tried to escape, the saliva dribbling freely from her mouth. In half a minute, she became perfectly still, supported against the side of the vessel. There was some convulsive cough. At three minutes, the only motion was that of very feeble, rapid respiration, sixty per minute ; the pupils dilated. At three minutes and a half, respiration had ceased, when the cover of the jar was removed, the cat being apparently dead ; but on being handled, she, for a few times, breathed in a short barking manner. At five minutes, there was neither sensation nor reflex action, the muscles being perfectly flaccid ; but by thrusting the hand beneath the ribs, the heart could be felt very feebly beating at one hundred and twenty per minute. At ten minutes, there was perceived a very faint convulsion, which was immediately followed by rapid twitchings over the whole body; at twelve minutes, on being taken from the vessel and laid upon the floor, she immediately began to cough and respire, and reflex action returned ; the urine and fæces were passed, and shortly afterwards the convulsions were very strong. She now began to swear, and, though unable to crawl or stand, made most violent attempts to bite the floor, and every-

thing put near the mouth, more viciously than I ever saw a cat bite. This continued for ten minutes, during which time she improved so as to be able to crawl about, attacking most furiously everything, so as to render it prudent to get out of her way; even her own tail she apparently mistook for something else, and bit most vigorously. By twenty-six minutes this temper had subsided, and she then as earnestly sought to be caressed and petted. At half an hour she eagerly eat meat, and though weak, could walk about. The next morning she was quite well." (pp. 181-2.)

"(Experiment 14. Vapour more concentrated, but inhalation less prolonged). Same cat as No. 13. Put one drachm of Chloroform upon a damp, warm sponge, at 80 degrees Fahr., and held it over the mouth and nose. For a minute she struggled hard, then became suddenly perfectly still. At one minute and a half, there was neither sensation nor reflex action; at three minutes, there was a little grunting noise, after which not any indication of life. The Chloroform was not nearly exhausted."

"(Experiment 15.) A very large powerful cat had one drachm of Chloroform given upon a warm damp sponge, at a temperature of 70 degrees Fahr. She struggled very hard indeed against it for one minute and a half, when she became still, and sensation appeared to be lost; but reflex action was not completely so until ten minutes. She continued to breathe feebly until four minutes, and the heart slightly to pulsate until five minutes; after which there was no sign of life. The sponge was removed, still retaining a considerable portion of the Chloroform." (pp. 182-3.)

Sulphuric Ether. This Anæsthetic is considered by Mr. Nunneley preferable to Chloroform, in cases where there is any reason to suspect any peculiar susceptibility to the depressing influence of Anæsthetics,—such as asthenic heart disease; also when an operation is likely to produce a considerable shock of the system, or to be long and tedious. But where the patient is plethoric, or very excitable, or where there is a tendency to fever,—when there is any affection of the brain or its membranes, or any predisposition to congestion,—any sthenic disorder of the heart, or disease of any kind in the lungs;—then, if an Anæsthetic must be used, Ether is not the one to be selected.

Chloric Ether is "composed of Chloroform and Alcohol, differing from the former as nitric ether does from sweet spirits of nitre."

From his experiments with this substance, Mr. Nunneley has concluded, that it is a very safe and pleasant Anæsthetic; and one which he would have no hesitation in using, if neither Chloroform nor the Chloride of Olefiant gas were at hand. A large quantity may be inhaled without destroying life.

Chloride of Olefiant Gas—Dutch Liquid. Of this substance, as an Anæsthetic, Mr. Nunneley thinks that it is in no one respect inferior to Chloroform. In his experiments, the animals were rendered perfectly insensible in as short a time, and shewed no uneasiness while passing into or emerging from this condition. There does not seem also to be so much depression induced as by chloroform; and a larger quantity appears necessary to cause death.

Besides numerous experiments on animals, Mr. Nunneley had several opportunities of trying the effect of this Anæsthetic on the human being. "Having ascertained the quick and pleasant manner in which animals pass into a complete state of Anæsthesia from a small quantity of the Dutch oil, and that in no case was there any irritation, I inhaled a few minims myself—not sufficient to lose all consciousness, but to enable me to judge of its effects. These I found in every way agreeable. I now gave it seven times to some medical students. One of them inhaled it three times, one twice, and two once each. In no case were more than thirty minims given, at first, upon a thin cloth; and in four, twenty minims more were given. Six out of the seven times, perfect insensibility was produced; the other gentleman was

made most happy, declaring the seventh heaven was nothing; he was in the ninth—nay, in the eleventh; hoped he might never come out, and so on.

"I now gave it to a parturient woman, in an extremely delicate and feeble condition, with legs excessively œdematous, and, I have no doubt, with diseased lungs, who had been in strong labour three hours with hardly any progress, from a rigid os uteri. Twenty minims were given; and twice, ten. In a quarter of an hour, the child, a small one, was born: the change in the os uteri was marvellous. She was not altogether insensible.

"*Thursday, March 8th.* At three operations at the Leeds General Infirmary, it was given to a man, aged fifty-five, who had had for some years contraction of the adductor muscles in both thighs; the legs were forcibly abducted while under the influence of this fluid. At first, forty minims were given, and the effect kept up by twenty given twice afterwards; in all, eighty minims. The muscles were fully relaxed, and the thighs were much separated. A woman, aged forty-two, had forty minims at once; a small malignant tumour was removed from the side. A boy, aged fifteen, had the outer hamstring muscles of *both* legs divided; in all, he had eighty minims, forty at first, and twice, twenty. The operation necessarily occupied some time. He was unconscious, even after removal to bed. All did well.

"*March 17th.* Through the politeness of my friends, Messrs. Smith, Hey, and Teale, the Dutch oil has again to-day been given in four operations (two young women and two men), with success." (p. 214.)

"I have since given it, in several other serious and important operations, to two women in labour, and several times it has been inhaled for experiment, so that no doubt can remain as to its value. When I used it, I was not at all aware that it had been previously tried; both Drs. Simpson and Snow had tried it, and were led to consider it a dangerous preparation which could not be used. This error, I believe, arose from their using an impure preparation; one which possibly contained free chlorine, which would account for the irritation induced, and must always be avoided with the utmost care; a point, however, upon which there can be no great difficulty, as I have used Chloride of Olefiant Gas perfectly pure, prepared by three different chemists." (p. 326.)

Common Coal Gas. This is not only a powerful, but a very safe and manageable Anæsthetic. "The animal is quickly brought into a state of unconsciousness and insensibility, and that without the least appearance of suffering. It does not act as an irritant, it does not excite a cough, there is no repugnance to the inhalation of it, and the condition of Anæsthesia may be safely maintained, for a period sufficiently long to allow the performance of most operations. It appears to deserve a full and fair trial; and if in practice it should be found, as I believe it will, to be successful, the cheapness of it would be a recommendation not unworthy of attention, should its gaseous form not prove too inconvenient." (p. 332)

Chloride or Protochloride of Carbon. This, in appearance and properties, has a close resemblance to Chloroform and Dutch Liquid. It is a safe and not unpleasant Anæsthetic, in action not dissimilar to Chloroform and Chloride of Olefiant Gas, but apparently less powerful than either of these. Mr. Nunneley, however, is uncertain as to the purity of the substance employed, and consequently as to the accuracy of the results he obtained in his experiments with this Anæsthetic, described in his paper.

Most of the other substances in the list are rejected by Mr. Nunneley from among those which may be used as Anæsthetics. Some have no pretensions to this property; others are too irritating; others, again, are dangerous in their immediate action; while two—the Bromide of Olefiant Gas and Hydriodic Ether—have the remarkable property of producing death some hours after the animal has perfectly recovered from their Anæsthetic effects. This appears, according to Mr. Nunneley, due to a poisoning of the blood.

Different Modes of Administration. Some experiments have been

made by Mr. Nunneley, with the view of determining the effect of administering the substances by Injection into the Veins, by the Alimentary Canal, and by Prolonged Inhalation.

Injection into the Veins. The effect of Chloroform, and of Sulphuric and Acetic Ether, when thrown into the veins, is not only very rapid, but a very small quantity is sufficient to produce death. The symptoms preceding death, and the appearances presented afterwards, do not differ materially from those caused by inhalation. Of Chloroform, five minims were sufficient to induce unconsciousness and insensibility, but not death ; ten minims destroyed, with every symptom of poisoning by hydrocyanic acid, both before and after death ; while twenty minims almost instantaneously destroyed a large dog. Twenty minims of Sulphuric Ether in one dog did not entirely destroy consciousness ; but in another and larger dog, before the whole of thirty minims could be got into the veins, it was very powerfully affected, and shortly was dead. Acetic ether is quite as destructive—apparently, indeed, more so than sulphuric.

Administration by the Alimentary Canal. Most of the substances, administered in this way, produce scarcely any Anæsthetic effects, acting at first as little more than local irritants, unless the dose be large ; and even then producing less effect than an equal quantity of spirit of wine. "This is an effect which, *à priori*, hardly any one would have predicated, and which may assist in throwing some light upon their action, and evidently depends upon some property in the substance itself, inasmuch as we find a considerable difference in this respect amongst them. Some act very violently and most speedily when applied upon the alimentary membrane, but with much less effect when applied by inhalation upon the respiratory membrane, as conia and spirit of wine. Hydrocyanic acid acts with great intensity, administered by either method, while the ethers, chloroform, Dutch oil, bisulphuret of carbon, (and especially sulphuretted hydrogen,) produce, so to speak, hardly any effect when taken into the stomach, but very decided when inhaled. A comparison of the experiments will show, that where scarcely any effect has been produced when swallowed, a like quantity of the same substance when inhaled, even in the same animal, induced, not merely a complete state of Anæsthesia, but death. When given by means of a sponge, a good portion is blown away by the expired air, so that a less portion, actually reaching the lungs, produces a much greater effect than when swallowed." (pp. 344-5.)

Prolonged Inhalation. The following experiments illustrate the effects of the administration of Anæsthetic agents by this method.

"(Experiment 275.) A four-months'-old cat was put into a gallon jar, with ten minims of Chloroform ; temperature 68 degrees. The jar was not entirely covered over, a small portion being left open at each end (the jar being oval), so that the animal should not suffer from the deterioration of the air. The kitten was soon under the influence of the Chloroform ; and, as the effect passed off, another portion was added, so as constantly to keep up the effect. At each addition, there was some excitement, struggling, and sometimes convulsions, otherwise the cat lay perfectly still, as though asleep ; the heart beat rapidly; the breathing was at times very quiet and feeble, at others more slow and deep. The fæces and urine were passed more than once. It was taken out of the jar three times, wiped clean and dry, and allowed to remain out four or five minutes, while the jar was washed out and dried. When least under the influence, it was offered meat and milk, but during the whole period it would not touch either. At the end of thirty-eight hours, it was dead. It had gradually become weaker, and for several hours had scarcely stirred in any way; indeed it was hard to say whether it was alive or not, and for the last eight hours no fresh Chloroform had been put into the jar, and the cover had in a great degree been removed, so that during this time it could scarcely be said to have been subjected to the Chloroform." (p. 276.)

"(Experiment 281.) On the 17th, at seven P.M., a seven-days'-old kitten was placed in a two hundred and forty cubic inch jar (temperature 60 degrees), with four minims of chloride of olefiant gas. It was soon asleep. During the evening, at intervals of an hour, four minims were put in six times (in all twenty-four minims), when it was left for the night. The next morning (the 18th) it was lying still asleep, but was easily roused on being touched, when it was taken out and put to the cat, which it sucked freely, and was well cleansed. It was immediately returned to the jar, with four minims of the liquid; this was repeated at intervals during the day nine times (in all thirty-six minims), with the effect of keeping it quiet and asleep. At three P.M., and again, at seven P.M., it was put to the cat, but could not suck. The last dose, at eleven P.M., excited it at first when put in; before, this effect had not been observed. 19th, nine A.M., asleep, but soon roused; taken out and put to the cat, which it sucked well. Returned after an hour to the jar, with six minims, which, to half-past seven, were repeated three times. During the day it lay perfectly still, except when touched, when it roused up and crawled about; during the day its eyes became opened. It was taken out and put to the cat, which it well sucked, was made clean and dry, and in half an hour returned to the jar, with six minims of the fluid. This was twice repeated in the evening. At night it appeared exceedingly dull, and likely to die. 20th, half-past eight A.M., after watching it for some minutes, I thought it dead; but on taking it up in the hand, there was the faintest respiratory movement. All day it lay with the jar uncovered, never stirring, and rarely breathing, excepting when touched; its temperature fell to that of the room. A little fæces and urine escaped. Towards evening, seventy-two hours after being placed in the jar, it had so far rallied as to be able to stir the limbs, in the faintest manner, when touched. It was put with the cat, who warmed and cleaned it. As it was found to have revived, but not to have been able to suck, it was left with the mother during the night. None of the fluid had been given to it during the day. 21st, nine A.M., being quite active and well, it was returned to the jar with six minims of the fluid, which was twice repeated during the day: in the evening it was just breathing. On being put to the cat, cold and wet, it was cleansed, but being unable to suck or move, the mother soon left it. In an hour again put in the jar, with four minims of the fluid: this was repeated at half-past eleven P.M. 22nd, nine A.M., it lay in exactly the same position as last night, and really appeared to be dead, but on handling it, the faintest respiration was perceptible. It was of the same temperature as the room, and contrasted strongly with the kitten in the following experiment. It was put to the cat, who again cleaned it, but it did not rouse nor suck. After two hours it was put into the jar, with four minims more: it never stirred after. The respiration became slower, but did not altogether cease until seven P.M., or one hundred and twenty hours after being put into the jar." (p. 281.)

The experiments show that Chloroform is one of the most speedily fatal agents, but that life may be safely preserved, if the condition of insensibility be not carried too far, for a much longer time than is required for any ordinary purposes.

Local Action. This, in all the agents tried, whether applied in the fluid state or in vapour, induces redness, some tumefaction, and paralysis, with loss of feeling, in the part which has been exposed to their influence. Chloroform and Dutch Liquid possess this property in the most marked degree. The limb may be cut, torn, or amputated, without any perception, though sensation remain unimpaired in the other parts of the body. If the hind leg of a frog be exposed to the vapour of Chloroform for a minute, redness, Anæsthesia, and paralysis are produced in it; if the exposure be more prolonged, the other hind limb loses its sensation and motion: and, in time, the whole body participates in the condition. Besides performing experiments on the lower animals, Mr. Nunneley subjected his own fingers to the

influence of Sulphuric Ether, Chloroform, Oleum Æthereum, Acetic Ether, and Dutch Liquid, with the effect of producing more or less sensation of heat, stiffness, and numbness. He also applied Chloroform locally in some operations; it produced heat and smarting at first, but the pain of the operation was greatly diminished, and in some entirely destroyed. Whether in operative surgery the local action of Anæsthetics will be of much use, is, in Mr. Nunneley's opinion, doubtful. "In many cases, as, for instance, lithotomy and deep-seated tumours, they could not be used; and in the larger amputations they would not penetrate to a sufficient depth to render the parts insensible throughout, unless applied for a very long time; and it is not unlikely, that during the long application, the system itself might be affected; besides which, there are many practical difficulties which would impede their use, and which it would not be easy to overcome—as the confining the fluid, without evaporation, to the part wished. In the smaller operations, they certainly may be used so as to induce complete local Anæsthesia; and if there be any constitutional impediment contra-indicating the internal exhibition, as great susceptibility to their action (as in persons of a hysterical or cataleptic diathesis), there the local action should be preferred; but in other cases it is doubtful if the longer time required for their application, and the smarting, which, if there be any abrasion of the skin, is great, and, in a wound of any extent, too great to inflict, which is occasioned, be worth undergoing for the sake of avoiding the inhalation. There can, however, be no doubt, that the local application of Chloroform and other similar agents, in cases of severe pain, is often productive of the greatest comfort and relief. In painful and irritable tumours, the pain may often be alleviated. Tic douloureux has disappeared like magic, by rubbing the part with it, or saturating a piece of lint and covering it over with oiled silk. Tooth-ache may often be charmed away, by a drop put within the decayed tooth. Lumbago and sciatica may be quieted by its use, and in many other cases, the local action of Chloroform has been very successful in relieving pain; as, indeed, great numbers of medical men, who have, since the announcement of its local action, tried it with manifest advantage, can attest." (pp. 350-1.)

At the commencement of his investigation, Mr. Nunneley proposed several queries for investigation. We will give these, and the answers, in an abridged form:

"Question I. *If the property of inducing Anæsthesia be confined to the few substances which have hitherto been used, or if there be not a large class of bodies which have in common the property of temporarily suspending consciousness, or sensibility, or both, vitality remaining; and if this be so, whether these substances are characterized by any similar composition, or chemical alliance, and have a common* 'modus operandi' *upon animal bodies?*"

To the first part of the question, an answer may be returned in the affirmative; to the second, an answer has been given in the remarks on the various substances. The following are the conclusions at which Mr. Nunneley has arrived: "1. That no Anæsthetic substance has yet been discovered, which does not contain *carbon*. 2. That the combination of carbon with hydrogen or chlorine, constitutes the best binary agent; and that the greater the proportion of the carbon to the hydrogen,—being, at least equal to it,—the more powerful the agent is; and if we could obtain a pure liquid of hydrocarbon, containing these equal proportions, easy to be volatilized, and of constant composition, it is highly probable that it would constitute a valuable and safe Anæsthetic; for if the carbon be too much in excess, as in benzole, (where the proportions are as two of carbon to one of hydrogen,) although the compound is a powerful and safe Anæsthetic, yet it is neither so manageable nor pleasant as where the proportions of carbon are not so great,—symptoms being developed, which may reasonably be supposed to arise from the excess of carbon. 2. That hydrogen and carbon may unite, as a radical base, with oxygen, chlorine, iodine, bromine, nitrogen, and, perhaps, some

other substances, to constitute Anæsthetic agents; and that these compounds, or at least some of them, may again unite with acids (consisting, perhaps, of the same elements as the base itself), and yet retain, to a certain extent, the same property as the oxide of ethyle: as nitric, chloric, acetic, and hydrochloric ethers do. 4. That of these ternary compounds, those act the best,—all things taken into consideration,—in which the third element bears the least proportion to the hydrocarbon, especially the carbon; as, for instance, ether and alcohol, perchloride of formyle (chloroform), and hydrochlorate of the chloride of acetyle (Dutch liquid); and of the binary compounds, those in which the atoms are in equal proportion to each other. 5. That substances which are analogous in composition, and isomorphous in form, as well as in physical and chemical character, are often similar in physiological action; but where they are not isomorphous, their action is not similar, as chloroform and iodoform. 6. That substances which are isomeric, or nearly so, but very dissimilar in physical and chemical properties, are also in physiological,—as witness several of the pure hydrocarbons, which, though very similar in composition, are very different in properties. 7. That, should any other combination of elements be discovered, which shall possess more valuable and important Anæsthetic power than those yet known, its composition will probably be found in accordance with the principles now announced. Lastly. We may conclude that the action upon the animal economy of all true Anæsthetic agents, whether carbons or hydrocarbons, whether simple or combined, is essentially the same in character."

"Question II. *What is the* 'modus operandi' *of Anæsthetic substances? In other words,—upon what structures do they act? What changes do they produce? What are their physiological effects? Is their primary effect local or general?*"

Mr. Nunneley concludes: 1. That the action of Anæsthetic agents is immediately and primarily upon the nerves; that the heart's action, respiration, circulation, the blood, and the muscles, are secondarily effected. 2. That, in the first instance, all these substances act as stimulants,—the action being more or less prolonged, but, to some extent, perceptible in all. In hydrocyanic acid, chloroform, and chloride of olefiant gas, the stage of stimulation (unless the dose of the two latter be very small) is short and feeble; with ether, it is considerable; while with alcohol, the stimulant effect alone is produced. 3. That the action is, at first, local. 4. That the action is primarily and directly, not upon the cerebral masses and sensorium, but upon the peripheral expansions of the nerves; that, *cæteris paribus*, the effect is in proportion to the number of these which can be directly and simultaneously acted on: hence the greater Anæsthetic effect produced by inhalation, than by internal administration.

"Question III. *Is there any one of these substances, which should be selected in preference to, or to the exclusion of, all the others? Is there any one, the temporary effects of which are more complete and certain, the permanent more harmless, and its administration more under our control than those of any of the others, so that we should uniformly retain the employment of it, and reject the use of them?*"

This question has been pretty fully answered in the remarks on the various substances. Those substances which possess the greatest power, and the effects of which are least objectionable, are sulphuric ether, the gaseous carburetted hydrogens (of which, common coal-gas is, perhaps, the best), chloric ether, hydrobromic ether, chloroform, the chloride of olefiant gas, and the chloride of carbon.

"Question IV. *Is there any essential difference in the action of these substances, according to the mode in which they are administered? Do they produce the same effects in whatever way they are carried into the body; or does the effect depend upon the nature of the tissue upon which they are applied? And does the same dose, when applied to the same tissue, and in the same manner, invariably produce the same uniform results?*"

The first clause of this question has been already answered; as to the second, Mr. Nunneley thinks that the effect depends more on the extent of surface than upon the nature of the tissue. As to the uniformity of result, it may be said, without hesitation, that the same dose not always produce the same result. The *very* young (new-born) animal will bear a positively larger quantity than the adult; while an older, but not adult animal, will not bear the same quantity as an old one of the same species will. Moreover, the same animal is far more susceptible at one time than at another. "Hysterical females, and lively, excitable animals also, are much more susceptible to the action of Anæsthetic agents than the unexcitable and phlegmatic are. In one instance, a lady called upon me, while suffering from a paroxysm of tic-douloureux, anxious to have immediate relief. I rubbed, upon the face, not more than twenty minims of chloroform, with success; but while doing so, another lady, who had accompanied her, and stood near, complained of feeling the effect of it. On leaving my house, instead of proceeding to some shops, as she intended, the head of the second lady became so confused and giddy, that she was obliged to make the best of her way home again; indeed, she walked so unsteadily, that she afterwards told me she was quite afraid of being supposed to be drunk. She laid down, and slept for several hours afterwards. This lady is one of a family of the most highly hysterical diathesis I ever met with. The quantity of any Anæsthetic which is inhaled in a given time, is of the utmost importance,—*cæteris paribus*, the more concentrated the vapour, by far the greater is the danger. Given slowly, the same animal will inhale at least twice the quantity, without dangerous symptoms, that, if inhaled very rapidly, would be not unlikely to cause death, as a reference to several of the preceding experiments will show."

"Question V. *Are there any symptoms by which we may accurately judge of their effects, and ascertain and control the point to which the system may, with safety, be brought under their influence?*"

In answering this question, Mr. Nunneley remarks, that the vapour should not be so concentrated as to produce a very sudden impression; nor should the Anæsthesia be carried so far as to render the patient altogether unable to stir. This is especially important in the practice of midwifery. Mr. Nunneley is convinced that the plunging a woman into a profound state of unconsciousness, has been often productive of the worst and most fatal consequences. The apparatus used should be simple,—a large, moderately-fine, linen handkerchief is best.

"Question VI. *In case of an over-dose, are there any means which can be employed to counteract the effects? Do we possess any antidotes, or are there any remedies? If so, what are they? In what manner do they act, and how should they be employed?*"

"Of the remedies mentioned, no one appears to possess any great power, in such a condition of things as would call for its employment. It is true, that agitation, cold affusion, a cold stream of air, perhaps electricity or galvanism, and some other stimulants, will expedite the process of rallying, where the depression is not very profound; so, also, it is possible that venesection, by lessening the pressure of the column of blood upon the walls of the heart,—especially the right,—may, when this organ is still acting, facilitate its contraction, and thus assist in restoring the circulation: at the same time it is by no means certain that, with such a depression as exists in the nervous energy, the abstraction of blood may not in itself tend to increase, or, at any rate, to prolong this condition, precisely as it would do in syncope,—to which state it appears not improbable, that the condition induced by Anæsthetics bears some considerable analogy."

"But we have seen that, in the great majority of cases, so long as the heart acts, and respiration at all goes on, the mere withdrawal of the Anæsthetic is followed by the restoration of the functions; and therefore the question forces itself upon us, as to the positive value or not of any of these means. If the

heart has ceased to act, no blood will flow on a vein being opened. If respiration has ceased, and the heart does not move, galvanism, though it may make the voluntary muscles violently contract, only does this by the sooner exhausting their power to do so, without, in any way, restoring the vital functions. Oxygen, of course, if there be no respiration, cannot be taken into the lungs; and the performance of artificial respiration with it, would be both difficult and incomplete, even were it at hand, which it would not, in the great majority of cases, be; while, so far as experiment and chemical action goes, it does not appear that, if it were ever so fully inhaled,—even in combination with the Anæsthetic substance,—it would in any manner prevent the development of full Anæsthesia; and therefore it cannot be for a moment imagined it would, in any way, counteract the effects when they are developed. Ammonia we have seen to be useless and inert, whether given mixed with the substance, or after its effects were produced. The coldness and depression which, in so marked a degree, are present, do not encourage us in the supposition that either cold water or cold air, to any very great extent, would be useful,—a conclusion which the experience of their effects confirms. We are, therefore, reduced to seek just that assistance from their use, as shall suffice to produce such a moderate shock (if the nervous system be capable of receiving any), as may cause a reaction and rousing of its powers, by which the heart and respiration may again be set in motion, or rendered more vigorous. This, as I have before said, appears far more likely to be accomplished by the sudden dashing of a small quantity of cold water upon the face and chest (possibly alternating with heat to the latter), or such a moderate stream of air as may be produced by a fan, and a not too violent agitation of the body, than by excessive violence, or by entire and long-continued immersion. A moderate, interrupted compression of the chest, and pressure upwards of the abdominal viscera, should not be neglected, as tending to change the air in the lungs, and thus to get rid of the vapour there remaining; or, with the same intention, a stream of air might be (not too forcibly) blown through a small tube into the larynx for a minute or two. These are remedial means, which some will, I doubt not, be disposed to exclaim, are very paltry and meagre; and which, it must be allowed, are not of a very energetic or hopeful character. But it is far better to employ such as may do a little good, than to have recourse to those which not only may, but probably will, do a great harm." (pp. 379-380.)

CAUTERIZATION WITH SOLIDIFIED NITRIC ACID.

Dr. Rivallier lately communicated to *L'Union Médicale* his mode of cauterizing cancerous tumours with *Solidified* Nitric Acid. He proceeds as follows:—Some lint is placed in an earthen vessel, and a certain quantity of Nitric Acid, in its highest degree of concentration, is gradually dropped upon it. A gelatinous paste is the result, and to this a shape, in keeping with the tissues to be cauterized, is to be given. The caustic mass is then seized with long forceps, and placed upon the part. After a quarter of an hour, or twenty minutes, it is carefully to be taken off, and an eschar, four or five lines in thickness, is thus obtained. There are cases, however, where the caustic may be left for twenty-four hours, as when the surgeon wishes to destroy a large encephaloid cancer. The pain is trifling, except the skin intervene; and when the caustic is left a long time, there is no pain after the first three or four hours! With large diseased masses, the cauterization should be repeated every day, after the eschar has been carefully removed. When the caustic is applied for a few minutes only, the part should, on its removal, be dressed with lint dipped in a solution of alum. Dr. Rivallier gives a few cases where this method of cauterization was used with success. [*Lancet*, December 1, 1849.]

OBSTETRICS.

THE UNDER-SIZED WOMB.

The following, from the pen of Dr. Oldham, of Guy's Hospital, will be read with interest, especially in connection with the paper of Dr. Vanoni, on Atrophy of the Uterus, and persistence of its infantine condition, of which we furnished an abstract at page 1116 of our number for December 1849.

"There is a variety of imperfect development of the female sexual organs to be met with in adults, which consists in their retaining some marks of an infantine character, being altogether small. This defect is not at first very obvious; there is no striking error; but I believe it to be one which is, comparatively speaking, frequent in practice; and, from not being properly apprehended, has led to much mischievous meddling with instruments for the cure of supposed contractions. I directed attention to this, originally, in a paper on dysmenorrhœa, in the *Medical Gazette* (November 1846); and since then I have seen many other examples, and feel it to be a matter of practical interest.

"*Physical Conditions.* There is some variation in the state of the sexual organs in different cases. The Uterus is generally under-sized; and this is to be detected by poising it on the finger, and moving it from the vaginal cervix. It is then *felt* to be of light weight, and is moved as a lighter body than usual. I have measured the length of the united cavities of the cervix and body, in some cases, with the uterine sound, on the living subject, and have found, in three or four instances, a reduction in length of from a half to three-quarters of an inch; but I have never met with so striking an instance as that recorded in the paper referred to, where these cavities measured only one inch and three-quarters. The light weight is, in a great measure, produced by the thinness of the uterine walls; and hence the examination by the finger, independently of other considerations, is the most satisfactory. The cervix is altogether small, of little substance, and short, and the os uteri is correspondingly narrow and small.

"Amongst my out-patients there is a female, nearly forty years of age, who has been married many years, but is sterile, in whom the os uteri is so small, that the aperture can only just be felt by the finger. I should say that, in size, it was about equal to the aperture of a watch-key. The cervix and body of the uterus are equally small.

"The only mark of arrest of development in this form of Uterus, which I have noticed, has been the presence of the longitudinal striæ in the cavity of the body of the Uterus, which, in the healthy, full-sized virgin Uterus, are confined to the cervix, and are effaced in the cavity. In March 1845, I obtained the Uterus of a young woman, who died in the hospital, of Bright's disease. She had been married six years, but had been sterile. I made the following note of the appearance of the sexual organs at the time: 'The Uterus was smaller and thinner than usual; the ovaries regular in their form, and not at all wrinkled. There were some distended vesicles, and the peritonæal covering was almost rent over one of them: indeed, it was slightly torn. On opening the womb, it was seen injected, throughout the cavity of the body, with a very beautiful capillary *rete*, which ended clearly at the os internum, the canal of the cervix being white and well marked. The cavity of the body had some raised ridges, beginning at the os internum, and branching, or rather bending, round to the two cornua, marking out a triangular figure.' I have taken this as the type of the Under-sized Womb, and it exemplifies the amount of imperfect development which is present.

"The vagina, in these cases, varies a good deal. Sometimes it is well-formed, and in full proportions; but I have noticed some peculiarities. I should say that, generally, it is short and shallow, and rather contracted at its

orifice. In one case, where the small state of the sexual organs was very striking, the upper part of the vagina was contracted into a canal, just large enough to admit the top of the index finger, and curved to the left side. At the top, the small os uteri, with the merest trace of a vaginal cervix, could be felt. This woman had been twice married; she was flat-chested, with small mammæ, and a badly-developed pelvis.

"The general configuration of the body, in these cases, is sometimes without any marked defect. For some years past I have, at intervals, seen a lady who has been married for nine years, and is now nearly thirty years of age, who has never menstruated. She has this low type of womb, and is sterile; but the figure is well and symmetrically developed, and the mammary glands are fully formed. She is of a strumous habit, subject to hysteria; but her general health cannot be said to be bad. More commonly, however, there is something wanting to the perfect evolution of the female form. A flat and contracted chest, or a pelvis retaining the shallow front, cramped ilia, and the forward-looking inlet of the infantine pelvis, and a diminutive stature, are seen in different degrees in different cases.

"The two principal signs of this condition, and those for which medical advice is sought, are scanty and generally painful menstruation, and, in the married woman, sterility. In all the cases I have seen, the amount of the menstrual flux has been less than usual. It may be entirely absent, as in the case I have related; or, as a habit, last an hour or two; or, again, two days or two days and a half, and then be often pale in its appearance, or greenish like the lochia. Very commonly there is pain, more or less severe, during the catamenial times, and then these patients are weak, fainty, and hysterical. Amenorrhœa, for two or three months or longer, without any known cause, and without chlorosis, generally forms a part of the history of these cases.

"*Sterility.* There is nothing in the conformation or capacity of the external organs in this state so to impede sexual intercourse as to require interference on this ground: at least I have never heard of this in a considerable number of cases which I have noted. But, in connexion with the sterility, there is usually sexual indifference, which is, in fact, pretty much the equivalent of impotence in the female. The general health of these females is certainly below par; the forces of life are feeble; there is a want of energy and tone about them; they offer a comparatively feeble resistance to the invasion of disease; and they are below the average of female life.

"*Complications.* I would remark on two complications which have occurred to me in the Undersized Womb: the first is a disease of its cavity, of which I have seen a single case; and the other is a displacement of the body of the Uterus.

"A married woman, an out-patient of mine at the hospital, who had the characteristics and history of this organic defect of the sexual system, began, three years after marriage, to have a thick white discharge, sometimes streaked with blood. She came under my care after five weeks spotting of the red discharge, having all the aspect and emaciation of phthisis. Her lungs were carefully and frequently examined, but without detecting any tubercular disease. On examination by the speculum, I found that the discharge was not yielded from the vagina or cervix, which was healthy; but as I pressed with the speculum, a small quantity oozed out from the os uteri. This was not the mucus from the cervix, but presented the characters of broken-up tubercle, imperfectly mixed with blood. I did this on several occasions with the same result; and I have little doubt, that tubercular matter had been deposited in the cavity of the body of the uterus, that it was then breaking up, and was passed stained with blood. I watched this case with much interest for some time: her general health improved; but by and by I missed her, and I had no clue to her direction.

"This disease, which is a true *uterine phthisis*,[1] is not by any means confined to this type of womb; but I regarded it at the time with much interest, as being a well-marked illustration of the disease, and also in its association with the defect in question." (*Guy's Hospital Reports*, October 1849.)

DR. CHARLES WALLER'S OPINIONS OF ETHER AND CHLOROFORM IN MIDWIFERY.

The following are the CONCLUSIONS with which DR. WALLER terminates his interesting paper on this subject, in the *Medical Times* for 10th November, p. 375.

1st. That the inhalation of ETHER and CHLOROFORM has been followed by injurious and fatal results.

2nd. That, in natural labours, no reason exists for the employment of a remedy, the efficacy of which is at least doubtful, and its action often hurtful.

3rd. That the action of the uterus is sometimes suspended; but the published accounts are so contradictory, that it is impossible to form an accurate judgment on this point.

4th. That the production of anæsthesia in operative midwifery is likely to be injurious rather than beneficial.

5th. The only circumstances which appear to justify inhalation are—

a. Where there is an unusual degree of nervous excitability and sensitiveness. I should, however, not be inclined to produce perfect insensibility, but should be satisfied with *diminishing* the powers of sensation.

b. Where there are severe muscular pains in the neighbourhood of the uterus, interfering with its action. This state has been well described, by Dr. Power, under the generic term "myopathia", of which he describes several varieties. In these cases, I should recommend moderate inhalation, and not the production of perfect narcotism.

c. In very difficult cases of turning, some benefit might *possibly* be obtained, although, in many instances, a dangerous amount of force might (unless great care be taken) be employed in extracting the child when the patient is in a state of insensibility.

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[1] "I have examined very carefully four specimens of this disease, which has been called strumous ulceration of the lining membrane of the uterus. Its morbid anatomy I believe to be, that *the glandular system of the cavity of the body of the uterus* becomes filled with scrofulous matter. This at first swells out the lining membrane; then it begins to break up, and, with the escape of the matter, the inner surface becomes ragged and deeply furrowed, and the uterine walls consume; that is, become thinner and thinner. This goes on equally over the whole surface; but in one specimen, the breaking-up process had gone on so deeply towards one horn, as to form a cavity there; and had the patient lived, I think it would have gone through the uterine peritonæum, unless its progress had excited inflammatory adhesion around it. This disease is *strictly confined to the cavity of the body of the womb;* it does not touch the cervix; but a clear line, separating the diseased from the healthy structure, exists at the os internum. In one specimen in our museum, the vagina is attacked, but the cervix is free."

REPORTS OF SOCIETIES.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

November 27th, 1849.

Dr. Addison, President, in the Chair.

On Section of the Tendo Achillis in some Cases of Fracture of the Bones of the Leg. By Campbell De Morgan, Esq. After referring to the operation of tenotomy, as practised not unfrequently on the Continent in cases of fracture, when unusual difficulty is experienced in reducing and keeping quiescent the fractured ends of a bone, the author related the following cases illustrative of this practice, where the tibia and fibula were the seat of injury, and the Tendo Achillis that of the operation. He believes they are the only instances thus treated in this country. The first case is furnished by Mr. Shaw, in whose practice it occurred :—W. S., aged 40, was admitted into the Middlesex Hospital on Feb. 12, 1847, having fallen down stairs in a state of intoxication. Both bones of the leg were broken, and the fracture of the tibia extended through both malleoli, the foot being twisted outwards. Violent spasms of the muscles frustrated all attempts to keep the fractured extremities of the bones in apposition ; the slightest movement brought on this spasmodic contraction, which extended to all the muscles of the limb, so as to cause great distortion of the foot, and render the skin over the base of the tibia extremely tense. All the symptoms continuing unabated on the following day, and the suffering of the patient being considerable, Mr. Shaw determined on dividing, in the usual way, the Tendo-Achillis, which was very tense. After this, all the difficulties entirely ceased, and no further trouble was experienced in the treatment of the case. The second case occurred in the author's own practice. The patient was a female, aged sixty-six, of drunken habits, and was admitted into the Middlesex Hospital in March, 1849. She had been knocked down by a cab, and both bones of one leg were fractured a little above the ankle. The symptoms and condition of this patient were very similar to those of the last, and every mechanical and therapeutic measure which could be suggested to relieve the spasms was tried in vain. The author divided the Tendo Achillis on the ninth day, with instant relief to the suffering of the patient, and immediate removal of all untoward symptoms. In less than a month, the chasm left after division of the tendon, which was not very great, had disappeared ; and a fortnight subsequently, she was able to walk on crutches, and the foot was free from deformity. After some general remarks on the value of the operation in the foregoing cases in relieving suffering and spasm, the author proceeded to remark, that he thought so simple and harmless a proceeding as dividing the Tendo Achillis might be adopted with advantage in other cases of more frequent occurrence, especially as the cure would not thereby be retarded. He concluded with noticing a remark of M. Bonnet's, that he has frequently divided the Tendo Achillis in cases of diseased ankle-joint, where rest was imperative, and where the heel was drawn up by the muscles inserted into it.

Mr. Charles Hawkins remarked, that as the occurrence of spasms during the first few days after a fracture greatly interfered with the well-doing of the patient, the operation might be usefully performed ; as it might also, in other cases, in which fracture had not taken place. He had no fear of the elongation of the tendon, a result which he had never met with. Cases of fracture of the patella were, perhaps, in their results, less creditable to a surgeon than any other accident. The patient had rarely afterwards a useful limb, owing in a great measure, as he thought, to the impossibility of

keeping the ends of the bone in apposition. In one case, and in one case only, had he seen bony union occur, and in that the other patella was shortly afterwards broken, and the patient was lamed for life. He had seen a case lately in which, as he thought, this operation might be advantageously performed.

Mr. Erichsen considered the operation justifiable in cases of fracture of the leg low down, when muscular spasm prevented the keeping the foot in position. This operation has been performed in dislocation of the astragalus forwards. The difficulty, in such cases, arises from the upper surface of the os calcis being jammed against the tibia, from which it cannot be replaced, except after the section of the Tendo Achillis, when the foot can be drawn downwards, and the astragalus reduced. This improvement we owed to the modern school of Dublin surgery. Cases of this dislocation have been left unreduced, because the strong spasms of the muscles of the calf could not be overcome.

Mr. Shaw mentioned a case of dislocation of the astragalus, which had been under Mr. Arnott's care in the Middlesex Hospital. The division of the Tendon was effected, but the fracture could not be reduced, and the bone was ultimately excised. The patient did well.

Case of Monstrosity. By James Bower Harrison, M.R.C.S.E. (Communicated by Dr. W. Vesalius Pettigrew.) The author was called on the 10th of January, 1849, about seven o'clock in the evening, to attend a poor woman who was in labour. On making a vaginal examination, he found the membranes protruding in a pyriform tumour, but could not detect through them any part of the child. After the membranes had burst, he made a further examination, and felt a soft tumour presenting, which resembled the bag of membranes before it had been ruptured. Passing his hand around the tumour, he at length discovered a hard substance, partially concealed between the tumour and the parietes of the uterus. This hard body was a distorted leg and foot. A ligature was passed round the foot; ergot of rye was given; the pains, before feeble, became stronger; and, with the aid of slight traction, the foot was brought down, when a finger passed up to the top of the thigh felt a substance which resembled the body of a child having only one leg and no organs of generation; the soft mass being still felt. After some time, the whole mass, with the distorted body of the child, descended and came through the os externum. The fœtus was a monstrous growth. The soft mass was found to be a hernial protrusion of the abdominal viscera, owing to the deficiency of the abdominal parietes below the umbilicus. The navel string had become detached. The right leg was directed transversely, and the foot curved inwards. The left leg was pushed upwards, out of its proper position, by a second tumour, the sac of a spina bifida, the left foot being curved like the other. The ossa pubis were deficient, as well as the spinous and transverse processes of the lower vertebræ, and the posterior walls of the sacrum. The genital organs were imperfect; the head, shoulders, arms, and chest were all natural. Some little time having elapsed, the placenta was removed with the hand; the whole being accomplished by about ten, or half-past ten o'clock; the mother did well. This case possesses considerable interest in an obstetrical point of view; particularly as regards the presentation of a soft tumour in the manner described.

December 11, 1849.

Dr. Burrows in the Chair.

Identity or Non-Identity of the specific cause of Typhoid Fever, Typhus Fever, and Relapsing Fever. By Dr. Wm. Jenner. (Communicated by Dr. Sharpey.) This paper gave a general view of the elaborate and truly valuable papers which the author has recently been publishing in the *Edinburgh Monthly Journal*, and *Medical Times;* from which sources we propose to give an analysis of Dr. Jenner's researches in our Digest of the

Journals. In the meantime, we may announce, that he thinks that he has incontestably proved that the specific causes of Typhus and Typhoid Fevers are absolutely different from each other; and, he conceives, that it is in the highest degree probable, that the specific cause of relapsing fever is different from that of either of the two former.

Dr. Barclay said, that in his own experience, fever without spots was very common; but with spots, uncommon. Out of 111 cases of fever admitted into St. George's Hospital, fifty-nine only were spotted; and this number included all kinds of spots. He had found great difficulty in distinguishing the various spots mentioned in the paper as diagnostic of Typhus and Typhoid Fever, as in some cases the rose-coloured spots changed to mulberry hue. The skin did not enable him to distinguish between Typhus and Typhoid Fevers; his diagnosis was founded on the state of the tongue and abdomen, the dejections, and other symptoms. If the eruption were of a dark hue, ulceration of the intestines was very uncommon; whilst it was always present when the spots were rose-coloured.

Mr. Sankey supported the views of Dr. Jenner.

Dr. Baly said that, as regarded the essential difference between Typhus and Typhoid Fever, his experience in some measure corroborated that of Dr. Jenner. In 1848 and 1849, 117 cases of fever occurred in the Millbank Penitentiary, at the time that Typhus and Typhoid Fever were epidemic without. Twenty were fatal; and, in all, the mesenteric and Peyer's glands were affected; they were all cases of Typhoid Fever. His experience regarding the presence and nature of the eruptions in fever agreed, in the main, with that of Dr. Barclay. Cases occurred without any eruption.

Dr. West believed, with Dr. Barthez of Paris, that the remittent fever of children was of the same nature as the typhoid fever of Louis. The same symptoms, allowance being made for age, were observed during life, and the same appearances after death; the characteristic eruption, however, was often wanting. He recollected no case of remittent fever in a child, in which typhus fever was present in the same house; and the converse of this also obtained. These facts, so far as they went, bore on the difference between typhus and typhoid fevers, and confirmed the view of Dr. Jenner.

Dr. Mervyn Crawford regarded the difference of opinion existing between the physicians of St. George's and the Fever Hospital, as depending on the different circumstances in which they saw cases of fever; in the latter, crowded together, and the poison of the disease more condensed; whilst in the former, the cases of fever were placed in various parts of a common ward, and the poison was thus diluted. He had the same difficulty as Dr. Barclay in recognizing the exanthem. He regarded the eruption as an accidental phenomenon, modified and determined by the state of ventilation, and by locality.

Dr. Jenner said, in reply, that, in typhoid fever, occasionally there was no eruption. The mulberry spots in typhus, at first, in many cases, bore a close resemblance to the rose-coloured spots of typhoid fever; so that, in a few cases, they might be regarded as exactly similar. His experience, however, fortified by two thousand cases, enabled him to assert, that if by the eighth day of the disease the eruption presented the true typhus character, then, if death ensued, intestinal lesions would not be discovered. Dr. Baly's cases, to be of any service in determining the diagnostic value of the eruption, must be confined to the fatal cases where the after-death appearances were described; but these appearances had not been mentioned by him. With regard to the opinions of Dr. Crawford, respecting the influence of impurity of the atmosphere and locality on the eruption, he might state, that the Fever Hospital received patients from all parts of London and its neighbourhood. Personal observation of houses, in these various localities, had not enabled him to observe any difference in their hygienic conditions. It must be self-evident, that no very great impurity of atmosphere existed in the Fever Hospital, as no such change as that mentioned by Dr. Crawford ever occurred. He agreed with Dr. West, that infantile remittent fever was typhoid.

WESTMINSTER MEDICAL SOCIETY.

November 24, 1849.

Francis Hird, Esq., President, in the Chair.

Dr. Daniell briefly related a case of ulceration of the tonsil, attended by profuse hæmorrhage, which placed the patient in great danger, in which Mr. De Morgan had tied the common carotid with success.

The Diagnosis of Ovarian Dropsy. By Mr. I. B. Brown. Amongst the general signs of Ovarian Dropsy, we must place emaciation of the neck and shoulders, an expression of the countenance peculiar, and indicating, in a marked manner, the presence of this disease. The face is elongated, thin, and partially shrivelled; anxiety and care are strongly depicted on it; the angles of the nose are drawn downwards; the lips are thinned; the mouth loses its curves, the angles being drawn downwards; the cheeks are furrowed; the eyes are remarkably defined, owing often to the sunken space between the eyelids and the bony margin of the orbit; the skin is thin and pale; in short, the whole of the cellular tissue of the face is atrophied. The extremities are seldom swollen, as in ascites; and, consequently, the patient can walk about with comparative ease. There is generally little disturbance to digestion and to the action of the liver. Respiration and the action of the heart are less disturbed than in ascites; but the heart's action is feeble, owing to the diminution in the whole mass of the blood.

The special signs are—First, we can generally trace the commencement of this disease from one of the ovaries deep down into the iliac fossa; a tumour pressing between the rectum and the vagina may be felt, either through the walls of the vagina or the rectum, not excessively painful, but elastic; on firmly pressing it, especially if at the commencement of the formation of the tumour, you can get it between the thumb in the rectum and the middle finger in the vagina; but you can also frequently feel an egg-like enlargement around the ovary, through the abdominal parietes, especially if you flex the thighs on the abdomen, so as to relax the muscles. This tumour gradually and definitely increases, still maintaining a rounded outline, and ascends from the pelvic cavity to the abdominal, and rises in the front of the bowels, distending the abdominal parietes, and sometimes reaches the ensiform cartilage, pressing up the liver, stomach, pancreas, and spleen, so as to elevate the diaphragm, and thus contract very considerably the thoracic space. This tumour, which, as it ascends, becomes more fluctuating, occupies the side from which it originates; but whilst it throughout retains a preponderance towards that side, it gradually extends to the opposite. The veins of the abdomen are generally much increased in number and size. The sac containing the fluid being circumscribed, the indications afforded by percussion are also circumscribed, and the sounds on percussion are of course dull over the sac, and resonant over the surrounding intestines. On examination per vaginam, fluctuation can be generally felt through its walls, and the vagina itself is elongated and drawn up, sometimes even under the arch of the pubis; the uterus is also either drawn up or pressed back on the rectum. The cyst is generally round and smooth on feeling it through the parietes of the abdomen, and moveable from side to side, and is not materially altered by change of position, either recumbent or upright. These special signs apply more particularly to unilocular Ovarian Dropsy. In multilocular, we almost invariably have an uneven and irregular surface of the cyst, and generally one or more solid tumours, which appear inelastic and without fluid; but in very many cases, these tumours will be found to be additional cysts, containing fluid, and tense, owing to the pressure of the fluid in the larger one. Mr. Brown had frequently found this to be the case; and this was proved by evacuating the contents of the larger cyst, and again introducing the trocar through the canula still in the opening, thrusting it into the apparently solid

tumour, and finding immediately an escape of fluid. On examining a multilocular cyst, fluctuation is not very distinct, if you examine the entire cyst; but if you tap over any one of the sacs, fluctuation is apparent, but only over that one, not being at all communicated to the adjoining cyst or cysts; where, however, the fluid is gelatinous or albuminous, fluctuation cannot be so readily felt. The same observation applies to those cases containing thick, cheesy matter, mixed with pus, and sometimes also with hair. But we have also distinct solid tumours in connexion with these fluid ones; and then there is no sense of fluctuation. This observation applies both before and after evacuating the contents of the fluid cysts. Having ascertained the nature of the tumour, so far as to say whether it is unilocular or multilocular, the next important subject is to ascertain the presence of adhesions. In examining for adhesions, Mr. Brown directed that the patient should be laid in the horizontal posture, and be made to flex the thighs on the abdomen so as to relax the abdominal parietes; he then moved the cyst from side to side. If this were readily done, he knew there were no adhesions. Again he placed his hand firmly on the relaxed parietes, and moved them over the cyst. If they moved readily, he knew there were no adhesions on the upper and lateral surfaces of the cyst. Again, as the parietes are thin in this disease, he grasped and puckered them up, and then moved them over the cyst, and also saw if they gathered up readily, without raising the cyst itself. If he found these three indications, Mr. Brown determined that there were no adhesions. Another plan, for which he was indebted to his friend, Dr. Sibson, is based on the extent to which the contents of the abdomen are forced downwards during a deep inspiration, by the descent of the diaphragm. If there be no adhesions in front, the upper boundary of the ovarian tumour descends, to the extent of an inch, during a deep inspiration, the place previously occupied by the tumour being now taken up by the intestines; consequently, if you percuss over the upper part of the tumour, a dull sound is elicited during ordinary respiration; but when the patient takes a deep inspiration, an intestinal resonance is there perceptible. Mr. Brown then alluded to those diseases which may be mistaken for Ovarian Dropsy. They were—1st, retroflexion and retroversion of the uterus; 2ndly, tumours of the uterus; 3rdly, cystic tumours of the abdomen; 4thly, ascites; 5thly, pregnancy; 6thly, distended bladder; 7thly, distended bowels from flatus; 8thly, fæces in the intestines; 9thly, diseased viscera of the abdomen.

Mr. B. Travers, jun., recollected a young girl, admitted into St. Thomas's Hospital, some years ago, under the care of the late Dr. Williams. The abdomen was much distended, and, on examination, the disease was supposed to be ovarian. An examination, per vaginam, detected a fluctuating tumour, which, on being punctured with a lancet, gave exit to a wash-hand-bason full of menstrual fluid. This girl's health was bad: she was anæmic, emaciated, and did not sleep. There were other symptoms, also, to warrant the suspicion that organic disease might be present; and he thought the cause, illustrated by this case, might be classed among those likely to be mistaken for ovarian disease.

Mr. Druitt related a case, in which a young woman became enlarged in the abdomen, after being violated; and pregnancy was supposed to exist. The fœtal heart was believed to be heard. Labour, however, did not come on at the ninth month; and it was soon after discovered that the hymen was perfect, and the uterus healthy and empty. It turned out to be Ovarian Dropsy. The impulse of the heart was communicated to the swelling, and hence the mistake.

Dr. Murphy had met with cases of large cysts, or tumours, in the abdomen, resembling the pregnant uterus, and accompanied by sounds imitating those of the fœtal heart. He believed that the pulsation was caused by the beating of the patient's heart, and might be discovered to be so, by comparing the pulse of the patient with the supposed fœtal pulsations.

He wished to hear from Mr. Brown, how he ascertained the existence of adhesions posteriorly; he thought they could not be recognized readily; he had seen one case in which they existed. With reference to one of the cases mentioned by Mr. Brown, in which Mr. Lane had been consulted, he could not understand how, both having made a very careful examination, such a mistake had been made, as to treat it as ovarian, when it was simply ascitic. When ovarian tumours and ascites existed together, the diagnosis was difficult.

Dr. Tilt said, that although the contents of ovarian cysts possessed very different physical characters, they contain *peculiar* cells filled with minute granules, and having the same appearance, however various may be their shape and size. Mr. Quekett, whose authority is of much weight in similar matters, had assured him, that, during the whole course of his microscopic researches, he had never met with these particular cells in any other cystic formation. The observations of Dr. Hughes Bennett,[1] and others, confirm these facts. If future observation prove their truth, we shall have at hand a pathognomonic sign of Ovarian Dropsy; for, by an innocuous exploratory puncture, it will be possible to inspect a portion of the fluid. In a case wherein there was considerable difficulty of diagnosis, Dr. Hughes Bennett did not hesitate to assert the existence of Ovarian Dropsy, after the examination of a portion of the fluid removed from the tumour: and his diagnosis was confirmed.

Dr. Sibson said that Mr. Brown had supplied, in his paper, several very valuable signs, indicating the freedom of an ovarian cyst from adhesions. These were, the power of removing the cyst from side to side, of moving the skin freely over the cyst, and of puckering up the parietes in a fold in front of the tumour, and then moving them freely. Mr. Brown had referred to an additional sign proposed by Dr. Sibson. He (Dr. S.) had been in the habit, for some years, when in the Nottingham Hospital, of making diagrams of the relative position of the viscera in the living as well as in the dead. He possessed several such diagrams taken from persons affected with Ovarian Dropsy. He first mapped out the organs and the outlines of the tumour, by means of percussion. He then desired the patient to take a deep breath, and to hold it; and he then mapped out the tumour and the organ afresh. He found, in the cases referred to, in which the ovarian cyst was free from adhesions, that when they took a deep inspiration, the upper boundary of the tumour was an inch lower than it had been before, being replaced by the resonant intestines which the diaphragm in its descent had pushed downwards before it, they, in turn, displacing the ovarian cyst. The signs of the absence of adhesions brought forward by Mr. Brown were quite conclusive and practicable, unless the abdomen were rendered tense by the greatly increased size of the tumour:—then, the sign which he had proposed would have its value, and would indicate, with precision, the absence of adhesions over the upper and anterior part of the cyst.

December 1, 1849.

Francis Hird, Esq., President, in the Chair.

Falling-in of the Chest during Inspiration, in some Diseases of the Chest. By Dr. Sibson. A young man, aged 34, was admitted into the Nottingham Hospital, under the care of Dr. Hutchinson and Mr. White, labouring under extreme difficulty of breathing. The fauces and glottis were so much narrowed by disease, that only a very small portion of air could enter at each inspiration. The countenance was pale and shrunk, and expressive of distress, anxiety, and starvation. He could only, with difficulty, swallow liquids. The whole chest was narrow and flat, the abdomen prominent. The lungs, though narrow, were much elongated, their inferior

[1] London Journal of Medicine for March 1849, p. 285.

margin being an inch lower than usual. During each inspiration, all the respiratory efforts were laborious and powerful ; but the whole of the sternum, the costal cartilages, and ribs, instead of advancing, were actually forced backwards, to the extent, at the lower end of the sternum, of half an inch. At the same time, while the chest shrunk inwards, the abdomen protruded considerably and forcibly. Mr. White performed laryngotomy. The air entered freely, and the movements of inspiration, so singularly altered, immediately resumed their healthy play. The walls of the chest, instead of yielding inwards, advanced during inspiration ; and the respiratory efforts, instead of being ineffectual and laborious, became effectual and easy. At the same time, the chest, formerly narrow and flat, became rounded and full ; the lower margins of the lungs, which had been dragged downwards, ascended and resumed their normal position ; the countenance, once pallid, shrunk, and anxious, was now ruddy, full, and placid ; and the pulse, formerly almost imperceptible, became full and regular. The cause of the remarkable deviation of the respiratory movements in this case was readily apparent. Air could only enter the lungs scantily, and with difficulty ; the muscular efforts at respiration were laborious ; the diaphragm, acting on the base of each lung, descended forcibly, and lengthened the lungs from above downwards ; the lengthened lungs, being inadequately supplied with air, became narrower sideways, and the walls of the chest were forced inwards by atmospheric pressure. If a bladder, two-thirds filled with air, be lengthened, its side collapse, and a piece of wood, resting on the bladder, will fall backwards ; if we shorten the bladder, its sides bulge outwards, and the piece of wood supported by them will be pushed forwards. So with the lungs ; if they be lengthened when air can scarcely enter them, during the efforts at inspiration their sides collapse, and the walls of the chest in front of them must fall backwards ; on the other hand, if they be shortened during the attempts at expiration, their sides will bulge outwards, and the walls of the chest will be forced forwards. Such was the condition and such the chain of the phenomena in the case just related, — a case which, in its respiratory conditions, may be readily imitated by any one on his own person. Pass a tape round the chest, close the glottis, and attempt to breathe by the diaphragm ; the abdomen will protude, the circumference of the chest will be narrowed, and its walls will be forced backwards. The action of the diaphragm overbalances the action of the muscles acting on the ribs, not because of the superior strength of that muscle ; on the contrary, it is broad and sheet-like, while they are many of them strong and fleshy ; nor yet because it acts directly, while they act obliquely ; on the contrary, for the fibres of the diaphragm are bent upon themselves in an oblique convexity ; their first action is to flatten the convexity, and then, when the fibres are bent almost at a right angle, they draw downwards the floor of the muscle, and so lengthen the lungs. The diaphragm overbalanced the costal muscles and ribs in the case in question, because of the ease with which the lungs can be lengthened from above downwards, gliding, as they each do, freely in an oval cylinder, composed of the costal walls ; and, because of the comparative difficulty, with which the whole of the walls of the oval cylinder in question can be simultaneously expanded sideways. The point is illustrated by the facility with which the piston of a syringe is raised, even when the mouth of that syringe is closed, and by the complete obstacle which is offered to the elastic expansion of a strong, empty, and closed india-rubber bottle. Since Dr. Sibson observed the case just related, he had noticed the same phenomenon in many cases, in which there was obstruction to the entrance of air into the lungs through the large air-passages. He had observed it in cases of croup, of obstruction in the larynx, fauces, and nostrils. The appearance was not alone observed in cases where the obstruction was due to local disease ; it was also to be observed, and in an extreme degree, in every case in which there was convulsive closure, or

great narrowing of the glottis during the struggling efforts at inspiration, as in laryngismus stridulus, the first stage of hiccough, the whoop of whooping cough, and the inspiratory convulsions of hysteria. Dr. Sibson had not observed the walls of the chest to be forced backwards during inspiration, under the influence of obstruction in the outer air passages, to so great an extent in any other case as in that just related, and which he brought forward as a type of the phenomenon in question. The extent to which the respiratory movements of the walls of the chest are reversed in such cases, is regulated by the amount of obstruction and by the flexibility of the costal cartilages. If the obstruction be very great, the whole of the anterior thoracic parietes may be forced backwards during inspiration, the reversed movement being greater at the lower end of the sternum, and less at its upper end. If the obstruction be comparatively slight, the lower end only of the sternum, and the adjoining sixth costal cartilages, will yield during inspiration, while the rest of the walls of the chest will, like those of the abdomen, move outwards. If the obstruction to inspiration increase in a case of croup, for instance, the extent to which the respiratory movements are reversed will proportionally increase; and, on the other hand, the extent will diminish as the obstruction to respiration diminishes. An exact measure is thus afforded, by close examination, from time to time, of the phenomenon in question, of the increase or diminution of the obstruction to respiration. If the entrance of air into one of the large bronchi be completely obstructed by the presence of a foreign body, then the walls of the chest will fall in, during inspiration, over that portion of lung supplied with air through the obstructed bronchus. If there be great obstruction to respiration in the smaller bronchial tubes, as in bronchitis, emphysema, and whooping cough, the same effect on the respiratory organs is produced as in cases where the obstruction is in the larger bronchial tube; the walls of the chest fall in, to a greater or less extent, in proportion to the degree of obstruction, and the flexibility of the costal cartilages. The extent to which the respiratory movements are reversed, is in no instance so great, in the cases where the small bronchi are obstructed, as it may be in those where the obstruction is seated in the outer air passages. In emphysema and bronchitis, while the abdomen protrudes, the upper part of the chest invariably expands during inspiration; while the lower end of the sternum, and the adjoining fourth, fifth, sixth, seventh, and eighth ribs may be forced backwards. In cases in which the obstruction is great, all those cartilages, as well as the lower end of the sternum, may fall in during inspiration; but in slighter cases, the yielding may be confined to the lower end of the sternum. If bronchitis, or any disease in which there is obstruction to respiration in the smaller bronchi, be confined to one lung, or portion of lung, the reversed respiratory movements will be confined to the region of the affected portion of lung. Dr. Sibson had observed the walls of the chest to be forced backwards during inspiration, in some cases of effusion into the pleura; the inspiratory descent of the diaphragm in such cases, may cause the lengthening, and consequent collapse, of the sac containing the fluid. If, in such cases, the effusion be so considerable as to displace the diaphragm to such an extent, that it bulges downwards into the abdomen, then, should the diaphragm act, it will be raised; the pleural sac containing the fluid, instead of being lengthened, will be shortened during inspiration; and the walls of the chest, over the seat of the effusion, instead of being forced inwards, will be forced outwards. When the whole, or a great part, of one lung is incapable of expansion, owing to condensation, then the walls of the chest over the affected lung are usually forced inwards during inspiration: in such cases, the respiratory movements of the ribs of the opposite side are exaggerated, and the lower end of the sternum is drawn over, at each inspiration, towards the unaffected side; the ribs over the affected lung are in turn drawn over by the sternum, and they consequently fall in during inspiration. In two cases of fracture of the ribs with general emphysema, the side on which the ribs were fractured

was indicated by the sinking in of the walls of the chest during each inspiration. When there is extensive effusion into the pericardium, and when the heart is enlarged and adherent, the lower end of the sternum and adjoining left costal cartilages may, in some cases, be forced backwards during inspiration. The yielding inwards of the sternum and ribs during inspiration, is most marked in those whose cartilages are flexible; it therefore occurs most frequently in children and young persons. Indeed, the inspiratory yielding of the walls of the chest is usually present in healthy infants, especially when they sob; in these, the chest flattens during inspiration, the lower end of the sternum receding; but in rickety infants, the chest narrows and the sternum protrudes, the parietes being forced inwards at the junction of the ribs to the cartilages. The phenomenon is least marked, or is altogether absent, in those whose costal cartilages have become firm or bony; it is consequently seldom observed in the aged. It is very seldom that the four superior or thoracic ribs, or the four inferior or diaphragmatic ribs, fall inwards during inspiration, under the influence of obstructed inspiration; the reversed respiratory movement being usually confined to the lower end of the sternum, and to the fifth, sixth, seventh, and eighth, or intermediate costal cartilages and ribs. When the form of the chest is normal, the lower end of the sternum and the adjoining cartilages present the phenomenon in question; but when the sternum is unusually prominent, the ribs alone are forced inwards, and the sternum protrudes. Dr. Sibson described a case, in which, owing to disease of the cervical vertebræ, involving the phrenic nerves, the diaphragm was paralysed, and in which, while the thoracic parietes advanced, the abdominal parietes shrunk inwards during inspiration.

December 8, 1848.

Francis Hird, Esq., President, in the Chair.

Different Forms of Ulcer in the Intestinal Mucous Membrane, which accompany Varieties of Dysentery and Diarrhœa in India. Dr. James Bird brought before the Society several coloured drawings of ulcers in the mucous membrane of the intestines, as they occur in Dysentery and Diarrhœa within the tropics, and gave an account of the cases from which the illustrations had been taken. The plates represented dysenteric ulceration, originating in simple inflammatory diffused action of the mucous follicles, or in specific chronic inflammation of the same, following tubercular deposit in the sub-mucous areolar tissue, in which latter, the transformation of the mucous intestinal coat closely resembles the progress of tubercle in the lungs. These two different forms of ulceration give rise to two distinct varieties of Dysentery, which Dr. Bird characterized under the names of *phlogistic* and *cachectic*, requiring very different systems of treatment—general and local blood-letting being of great utility in the former, and very little requisite for the latter, where sub-nitrate of bismuth, or sulphate of copper, with opium, frequent emollient opiated enemata, blistering of the abdomen, strict limitation to milk and farinaceous diet, with change of air, and other adjuvants, are specially indicated.

Vascular Tumour of the Urethra. By Mr. Hillman. A married lady, aged twenty-six, had been suffering from pain in passing urine for about eighteen months, and for a rather less time also in matrimonial intercourse—so much so, indeed, that the latter had been necessarily discontinued for several months. The pain was aggravated during the menstrual flow. Before coming under Mr. Hillman's care, she had been unsuccessfully treated for gravel. On examining the parts, three or four small growths, of a dark-red colour, were found round the urethral orifice and emerging from its interior. Pressure on the urethra, by the finger, in the vagina, caused great pain. Whilst the patient was under the influence of chloroform, the growths visible externally were removed by curved, blunt-pointed scissors; the urethra was

dilated, and another similar growth removed from the interior of the canal. Not more than two ounces of blood was lost at the time; but on the day following there was slight secondary hæmorrhage. Some purulent discharge followed the operation; but in about three weeks the patient was well, and in all respects quite comfortable.

Epilepsy and Puerperal Convulsions: some of their Relations and Differences. By Dr. Tyler Smith. The author commenced by observing, that there was a common opinion that epileptic persons were more liable than others to Puerperal Convulsions. Reasoning *à priori*, it was natural to conclude that such must be the case, the Convulsions being so similar in the two classes of cases. Closer observations, however, showed considerable differences between the two diseases, which he would briefly enumerate. Epilepsy is generally a chronic, but Puerperal Convulsion is an acute disease. Epilepsy commonly leads to idiocy; Puerperal Convulsions to mania. Asphyxia is more nearly reached in Puerperal Convulsions than in Epilepsy. Epilepsy is a disease of years; Puerperal Convulsion a disease of hours or days. Epilepsy is connected with the ordinary functions of the body; Puerperal attacks belong to an extraordinary function, of limited duration. In the one, consciousness is generally recovered between the fits; in the other, the continuance of coma from fit to fit is very common. The treatment required in the two diseases is very dissimilar. In Epilepsy, there is generally the characteristic aura; in Puerperal Convulsions this is wanting. In Puerperal Convulsions, œdema of the extremities is as common, as it is rare in Epilepsy. These circumstances must induce us to inquire whether Puerperal Convulsions ought not to be studied as a distinct and independent disease, as a variety of convulsions as far removed from Epilepsy, as Epilepsy was removed from the convulsions of infancy. But the important question, which could only be decided by experience, was—Were epileptics predisposed to Puerperal Convulsions? The author related four cases of epileptics becoming mothers, which had fallen under his own observation; in one, the first pregnancy and labour had been completed without any convulsion: in the second, two labours had been completed without Puerperal Convulsions, and the fits were rare during pregnancy; in the two remaining cases, the Epilepsy had been very much relieved during the whole of the child-bearing epoch; and in one, ten pregnancies and labours had passed, without any convulsive seizure. These latter cases were now near the catamenial decline, and were affected with paroxysmal seizures of an epileptic character. Dr. Smith related the particulars of eleven other cases, which had been supplied to him by Dr. Fleetwood Churchill; Drs. Swayne and Herapath, of Bristol; Dr. Robert Barnes; Mr. W. F. Barlow; Mr. Higginbottom; and Mr. R. U. West. The number of pregnancies, in the fifteen cases, amounted to about fifty-one. Puerperal Convulsions of a decided character only occurred in two labours. In one case, there were three attacks of convulsions after the eleventh labour of an epileptic patient; and in another case, there was a single seizure the day after one of five labours. Generally, the epileptic attacks were fewer, and, in several cases, disappeared altogether during gestation. Thus, the presence of Epilepsy by no means appeared to be an active predisposing cause of Puerperal Convulsions; and, so far as the author's inquiries had extended, there was no tendency in Puerperal Convulsions to be followed by Epilepsy, though it might be the case, when organic disease of the nervous centres was induced by the Puerperal attacks. Dr. Smith entered upon a consideration of the causes which lead to the amelioration of Epilepsy during gestation, referring it principally to the rest from the ovario-uterine excitement of menstruation in pregnancy. He dwelt on the frequency with which Epilepsy was connected with the catamenial excitement, many cases only occurring at these periods, and others being aggravated at the monthly dates. He also pointed out the infrequency of

Epilepsy, in purely amenorrhœal or chlorotic subjects, and referred to the fact, that other disorders dependent upon ovario-uterine excitement, as hysteria, and dysmenorrhœa, were relieved by pregnancy. As far as the cases now detailed went, it appeared that marriage was not so much to be dreaded in epileptic females as had been supposed, particularly where the fits were connected with catamenial excitement. It was clearly indicated, that in Epilepsy great attention should be given to soothe menstrual irritation, and that Puerperal Convulsions should be studied and treated without any special reference to Epilepsy. He had confined his attention chiefly to the facts of the cases which he had observed, or which had been communicated to him, and to the most simple and obvious deductions from them; but if these should be modified by future inquiries, he would take care hereafter to inform the Society.

Mr. Druitt questioned the propriety of separating Puerperal Convulsions from other forms of Epilepsy, and thought the distinction more in words than in reality. The same conditions obtained more or less in both, and were often influenced by the same conditions of the blood, and the same central and peripheral sources of irritation. Puerperal Convulsions resembled more nearly those cases of Epilepsy in which the convulsions occurred but once, as for example, from irritation of the stomach, by indigestible food. He had often known epileptic attacks to be caused by excessive beer-drinking. A friend of his, in extensive midwifery practice, in a rural district, during the failure of the potatoe crop, in 1847 and 1848, when the population was much affected with scurvy, had, out of eighty cases, four of Puerperal Convulsions. The poisoned condition of the blood would explain this unusual frequency.

Dr. Murphy had listened with much pleasure to Dr. Tyler Smith's paper, having maintained the opinions expressed therein long ago. The distinction between the two diseases under consideration was more than one of words: it was of essential service in practice. He could confirm the opinions of Dr. Smith by cases. He thought it desirable not to confuse Epilepsy with Puerperal Convulsion, as the two diseases might often require opposite plans of treatment. He agreed with Dr. Smith as to the connexion between Epilepsy and ovarian excitement.

Dr. Barnes said, that, according to Dr. Smith, ovarian excitement was the cause of labour, and also of Epilepsy. He would ask Dr. Smith, why it was not also the cause of Puerperal Convulsions?

Dr. Webster said, that matrimony had been recommended as a cure for Epilepsy. He mentioned a case, related by La Motte, of an epileptic woman who had eight children—five girls and three boys: with the girls she had no Epilepsy during pregnancy, but with the boys she had. This case, though anomalous, was, in some degree, confirmatory of the views of Dr. Tyler Smith.

Dr. Cape agreed in the distinction drawn by the author between Epilepsy and Puerperal Convulsions; for, however similar the symptoms of each, the treatment was usually different. Besides, Epilepsy was more frequent in children than adults, and men were subject to it. Women, moreover, were less likely to be affected by it when not pregnant. Epileptic seizures occur more frequently by night than by day. A young lady was seized with a violent and protracted fit of Epilepsy on the first night of her marriage, during connexion. Her husband imagined she must have been subject to these attacks previously; but her friends denied all knowledge of any such circumstance. She had seizures in the night, without any one knowing it. This lady bore seven children, and had no Epilepsy during gestation or delivery.

Mr. W. F. Barlow had seen several cases of Epilepsy, of an unequivocal character, during sleep. However much he admired Dr. Tyler Smith's paper, he found a difficulty in separating Puerperal Convulsions from Epilepsy: they differed more in degree than in nature, for all the symptoms were similar. Practically, however, Puerperal Convulsions must be separated from the other kinds of Epilepsy. But he agreed with Mr. Druitt, that the Puer-

peral Convulsion was a form of Epilepsy, and that it should so be called. Dr. Tyler Smith had spoken of the state of the puerperal patient between the paroxysms. Epileptic patients often lay in profound coma in the intervals of attack, in cases where one seizure follows another rapidly. He had seen a case, in a young woman, which was fatal after numerous paroxysms, each of which was preceded by a loud "crowing noise"; so that, had the affection happened in a child, it would have been called *laryngismus stridulus*.

Dr. Robert Lee said that he had recently had under his care a lady, who had been suffering from attacks of Epilepsy every fortnight during the last eight or ten months, subsequent to the birth of her second child, when she had Puerperal Convulsions, and he was called to see her. This lady had never before been subject to Epilepsy. Not having succeeded in stopping the fits, which at first occurred during the day, and latterly during the night, he had requested her husband to consult Dr. Marshall Hall, and to place her under his care. The fits still continued every fortnight. This case, Dr. Lee said, was the only one in which Puerperal Convulsions had terminated in Epilepsy, which had come under his observation during twenty-two years. Of the fifty-nine or sixty cases of Puerperal Convulsion which he had seen during that period, there were three in which Epilepsy had previously existed in early life, and a considerably greater number where there had been hysteria. Dr. Lee was of opinion that chorea, hysteria, Epilepsy, Puerperal Convulsions, and puerperal mania, were all different diseases, though closely allied to each other. He related a case of chorea in the sixth month of pregnancy, which occurred in St. George's Hospital in 1842, in which, after the expulsion of the contents of the uterus, the symptoms of chorea passed into fatal Puerperal Convulsions. The brain and spinal cord were both carefully examined, but no morbid appearance was discovered, to account for the phenomena. On what condition of the brain and nervous system these diseases depended, he believed to be wholly unknown; and he considered it certain that they might all occur without any organic disease whatever. Epilepsy and Puerperal Convulsions were not the same disease, though the symptoms observed during the fits were similar. This was also the opinion of Dr. Burns, who states, in page 483 of his *Principles of Midwifery*, that "Puerperal Convulsions are quite different from Epilepsy." Some of the circumstances in which they differ have been pointed out by Burns, but in a less distinct manner than had now been done by Dr. Tyler Smith.

Dr. Willshire spoke at some length on the subject of the causes and symptoms of Puerperal Convulsions and Epilepsy. He thought we were not warranted in considering them as two diseases.

Dr. Henry Bennet, although agreeing with Dr. Tyler Smith in all the main features of his paper, was inclined to think that he attached more importance to uterine irritation as a cause of Epilepsy in females than was warranted by practical experience. Although seeing a great deal of uterine disease in every shape, he very seldom indeed met with the two diseases associated. Thus, in the three hundred cases of uterine disease contained in the appendix to his work on Inflammation of the Uterus, he believed there was not a single instance of Epilepsy. He did not either recollect observing uterine irritation or disease to be of frequent occurrence in the female epileptic wards of La Salpêtrière, during the time he was connected with that hospital, as resident medical officer. These wards contained five hundred incurable epileptic females, and were for some time specially entrusted to his care. If, as he was thus induced to believe, the connexion between uterine disease and Epilepsy was rare, and not frequent, as supposed by Dr. Tyler Smith, the non-appearance of epileptiform convulsions in the parturient state, in epileptic females, was not so extraordinary a circumstance as it must otherwise appear.

[On the motion of Dr. Cormack, seconded by Mr. Streeter, it was unanimously resolved to adjourn the discussion.]

December 15, 1849.

Francis Hird, Esq. in the Chair.

Insanity ascribed to the Use of Chloroform to induce Anæsthesia in Parturition. Dr. Webster related the following case, which had been communicated to him by a friend, on whose accuracy he could implicitly rely. One drachm of Chloroform sprinkled on a handkerchief was used. The effect of the inhalation was sudden, and violent: the patient remained quite insensible; along with the insensibility there was deadly pallor of the countenance; from this state she slowly emerged, but had a painful and exhausting labour. For several days she was in a very nervous condition, but not actually incoherent; she soon, however, became furiously maniacal, and required the restraint of the strait waistcoat. After continuing in a state of insanity for many months, she gradually recovered her reason.

Dr. Cormack was not an advocate of universal resort to Anæsthesia in parturition; but, nevertheless, he would remark, that cases such as Dr. Webster had now related did not seem to him to tend, in any degree, to prove that Anæsthesia was dangerous. Here, certainly, was a case of puerperal insanity: but who would venture to say, that the drachm of Chloroform was alone, or even in part, the cause of the attack?

Dr. Snow could not, without further information, recognize the case as one of insanity from the use of the Chloroform during labour. The most necessary particulars had not been furnished.

Dr. Murphy was pleased to think that Dr. Webster was devoting his attention to this inquiry, and he had no doubt, that results of great importance would flow from it. But he would take the opportunity of remarking, that there existed a class of puerperal patients—commonly called hysterical—in whom the most extraordinary and anomalous effects were produced by the administration of any medicine, without reference to its nature, and in whom the impression seemed to be mental. Any unusual proceeding might in them originate such a train of symptoms.

Dr. Webster said that his object was to collect and analyse facts; and he hoped to receive the assistance of the Society, and the profession, by the contribution of cases.

The Arcus Senilis. Mr. Canton displayed some sections of the cornea, under the microscope, taken from a female, aged eighty-two years, with a view of showing the Arcus Senilis to be a fatty degeneration of the cornea. In the same subject, (a spare woman, who had died apparently of old age,) the heart and arteries were affected with the like atrophy,—with degeneration, as it has been termed by Professor Paget. Several other specimens, made from the corneæ of persons who had passed the age of fifty, showed the deposit between the fibres of the part. Mr. Canton stated that he had not as yet met with the appearance of a corresponding deposit in the edge of the crystalline lens, as had been mentioned by Dr. Schön, of Hamburgh. A clear internal layer of cornea is always to be seen between the edge of the senile zone and the margin of the sclerotic.

Two Hen-Eggs united at their Ends by a Band, were exhibited by Dr. Cormack. The eggs were rather less than the usual size, and somewhat elongated, apparently in consequence of their having been squeezed together during their growth, when the shell was being formed. At their points of apposition there existed a great roughness of the shell; an effort probably towards union of the eggs. Dr. C. stated that anomalous formations of the hen's egg were not by any means uncommon; but, though he was familiar with many of them, he had never met with one like the present. Double yelks have been frequently observed, and Dr. C. had once seen a triple yelk; but here were two perfect and distinct eggs, each with its own shell, united by a neck or band, about a quarter of an inch in diameter, also slightly covered with shell, and containing, apparently, a band

of the white matter, and the medium of union between the eggs. Considering the great size of the conjoined eggs, and the parallel position in which they had evidently been expelled, it was surprising that they had not been fractured (except slightly at their neck), or that the hen had not been injured. Hens frequently die from the egg assuming a transverse position in the oviduct, unless some one in charge, suspecting the nature of the case, introduce the finger and turn the egg. The hen which laid the united eggs was five-toed, of the Dorking breed, and belonged to Dr. Cormack.

Mr. Wing had never before seen two eggs joined; there were in the possession of a friend of his, two chickens united by a band, just like the Siamese twins. They died before they were hatched; and when he saw them, they were preserved in spirits.

Adjourned Discussion on the Relations and Differences between Epilepsy and Puerperal Convulsions. Dr. Cormack said that it was not his intention to enter upon that department of Puerperal Convulsions, regarding which he had so recently had the honour of addressing the Society: viz., those epileptic seizures which occur in pregnant women from toxæmia, which he had described as being chiefly of renal or lochial origin. The renal Puerperal Convulsions were not necessarily—nor indeed were they generally—connected with organic disease of the kidney; the pressure of the uterine tumour upon the emulgent veins being sufficient to cause congestion and functional disturbance of the organ, deficient blood-moulting, and consequent toxæmia. The lochial Puerperal Convulsions depended on toxæmia from suppression of the lochial discharge. Toxæmic convulsions—renal and lochial—were produced by direct impressions on the spinal centre; but the cases which had been so instructively brought before the Society by Dr. Tyler Smith were of reflex or excentric origin; though of course it must be remembered, that cases of mixed origin occurred.

The main propositions which the author had sought to establish were these—"That epileptics are not more liable than others to Puerperal Convulsions; and that pregnancy has a tendency to ameliorate Epilepsy." But what is Epilepsy? What are Puerperal Convulsions? Epilepsy cannot be considered as the name of a disease; and if it have any definite meaning at all, it is when limited in its use to describe a particular form of convulsion. Its causes are very various; and ovarian irritation is only one of them. Again, Puerperal Convulsions do not by any means always depend upon the same pathological causes; and each case must stand by itself, till investigated, and placed in its own group. The term is mischievous, if employed with reference to causes or treatment; and ought to be restricted to its simple meaning—viz. convulsions occurring in puerperal women. They may not be epileptic; but they are generally of this description. Dr. Cormack had seen, in common, he ventured to say, with most of those whom he addressed, fits of strictly epileptic character, characterized by coma, clenched teeth, and bitten tongue, arising from the renal disorder of scarlatina; from toxæmia dependent on organic or functional disease of the kidney, or of the liver; from irritation of the peripheral extremities of the intra-cranial nerves by osteophytic spicula, or by the presence of effused fluids within the cranium; from cerebral hypertrophy or tubercular deposit; from irritation of the fifth pair of nerves in dentition; from irritation of the nerves of the stomach, bladder, uterus, and ovaries—and, he said, if Epilepsy be more common in females, this preponderance must depend upon the two latter causes. The greater frequency of Epilepsy in women is not, however, established; for there is reason to suppose, that the severer forms of certain other convulsions to which the sex are liable, have been indiscriminately placed with it; and possibly a rigid diagnosis might nearly, if not entirely, equalize the number of epileptic seizures in the two sexes. From these considerations, Dr. Cormack maintained, that ovarian irritation was not so frequent a cause of Epilepsy as some supposed;

and that it was only when the fits depended upon that cause, that the ovarian repose of pregnancy could be ameliorative. Ovarian repose, however, was by no means a constant condition in gravid women. If a young unmarried woman had epileptic fits, only at her catamenial periods, marriage might be allowed, because pregnancy would probably be curative; but it was only when thus stringently limited, that the sanitary influence of marriage in epileptics could be admitted. And if Dr. Smith's proposition were intended to be a general one, he (Dr. C.) must dissent from it. The ovarian repose of pregnancy can only be curative, when the seizures depend on ovarian excitement. Taking all cases indiscriminately, however, he believed it to be true, that Epilepsy was rarer among pregnant, than other women. He had incidentally stated this in a paper which he had read to the Society.[1]

An interesting case, put on record by La Motte, had been mentioned by Dr. Webster, as bearing on the question of pregnancy in epileptics. The facts did not appear to be so anomalous, as Dr. Webster had said. An epileptic woman married; and the history of eight successive pregnancies was, that when five times gravid with girls, she escaped; but that on the three other occasions, when the children were males, she had epileptic fits. The explanation of the case is this: on each occasion, pregnancy proved prophylactic against her old disorder—ovarian Epilepsy; but this benefit was only manifest, when she was gravid of female children, because, in her other pregnancies, the male fœtus, from the greater bulk of the uterine tumour, caused renal toxæmic convulsions. In illustration of this point, Dr. Cormack referred to the statistics of Dr. Collins.

There exists an analogy between the intra-cranial osteophyte of many non-puerperal epileptics of both sexes, and that remarkable condition of the cranium which obtains during pregnancy, and which was discovered and described about ten years ago by Rokitansky. The Wenzels and others observed long ago, that in epileptics of both sexes, the calvarium was commonly thickened, and had bony spicula projecting inwards from it, and that a bony deposit was to be found in the dura mater and pituitary body. Modern physiology points to these spicula as the cause of convulsions, by their irritating the peripheral extremities of the intra-cranial nerves. Now, if we have in pregnancy an osseous deposit on the intra-cranial surface, as a normal condition, how very probable is it, that when the deposit is either in excess, or, in place of being smooth as it generally is, on its cerebral surface, is rough and jagged, we may have thereby produced, epileptic seizures. If so, here we have an analogy between a group of cases of Puerperal and non-puerperal Convulsions, which has not hitherto been suspected. Dr. Cormack thought that the whole subject of osteophytes required elucidation, and was one which, if properly investigated, might throw much light on those incipient derangements on which certain cases of Epilepsy depended. He regarded the osteophyte as an inflammatory product, or at least as one which required a highly fibrinous condition of the blood; and in proof of this referred to the condition of the blood in pregnancy, and to a paper on osteophytes in pleurisy by M. Parise, in the *Archives Générales de Médecine* for November of this year. He also read an account of the discovery made by Rokitansky, from p. 16 of Dr. Fletcher's *Elements of General Pathology*, and referred to the confirmation of this discovery by Ducrest[2] and Moreau. The subject had hitherto been looked on as one merely of curiosity, but he thought it might yet be found to have an essential bearing on pathological doctrines.

The following are the observations of Professor Rokitansky, read to the Society by Dr. Cormack:—"Professor Rokitansky, of Vienna, describes a cal-

[1] "From some convulsive attacks, *e. g.*, Epilepsy, she seems very frequently to be respited, in virtue of her pregnancy." Dr. Cormack, in London Journal of Medicine, June 1849, p. 535.

[2] *Edinburgh Monthly Journal* for 1844, p. 232, quoted from the *Mem. de la Société Médicale d'Observation de Paris*, vol. ii, 1844.

careous deposit on the internal surface of the skull, as being almost constantly present in the pregnant and puerperal states. This deposit varies from one-sixth, one-third, to one-half of a line in thickness. It appears principally on the frontal and parietal bones, especially in the course of the arterial sulci. Sometimes, it is found on the base of the skull, and the frontal bones. It does not extend uniformly over the surface of the skull, but is scattered like little islands, leaving intervals quite unaffected. It may be considered as an almost invariable appearance in pregnancy, and does not at all indicate any abnormity of that condition. It seems to depend on the state of the uterus during pregnancy, as it has not been observed either in cases of extra-uterine conception, or in cases of polypi of the uterus. It has been detected as early as the third month of pregnancy. This formation of bone has been observed in three distinct stages of development. First, as a yellowish red and gelatinous vascular condition, easily separated from the *tabula vitrea* by the knife. Second, as a thin, weak, porous, calcareous layer, attached by a gelatinous exudation to the skull; this is likewise easily separated by the knife. Third, as an osteo-cartilaginous plate, attached to the skull by numerous fine vessels, which must be torn through before it can be separated. These three stages of development are generally observed in the same skull. As far as observations hitherto made lead, it would seem, that such a deposition takes place at each pregnancy, and that the substance so deposited is not absorbed. Thus, Rokitansky is of opinion, as well from these facts as from numerous observations, that the skull becomes permanently thickened by frequent pregnancies. Regarding the connexion of this osteophyte with the symptoms that appear in pregnancy, and its relation to that condition of the system in general, we are as yet wholly unacquainted." (*Fletcher's Pathology*, edited by Drs. Drysdale and Russell. 1842, p. 16; from *Œsterreich. Medicin. Jahrbücher*, Band. xv, s. 501.)

M. Moreau's observations were read from the *Edinburgh Monthly Journal* for September 1846, as quoted from the *Journal de Chirurgie*, for 1845. Moreau states that the osteophyte can always be separated from the skull-cap, and that it leaves its vitreous table uninjured, and healthy. In forty-two cases, he found the first degree of thickness and solidity thirteen times, the second, twenty-one times, and the third, eight times. A recent observer had noticed osteophyte in the bones of the pelvis, as well as of the cranium, of pregnant women.

In conclusion, Dr. Cormack reminded the Society, that the three points to which he had attempted to direct attention were:—

1. That the term Epilepsy should be used only to designate a particular form of Convulsions.
2. That pregnancy can only ameliorate the condition of epileptics, when the Epilepsy is dependent on ovarian excitement.
3. That the abnormal development of the intra-cranial osteophytes of pregnancy may be an occasional cause of Puerperal Convulsions.

Mr. Streeter observed, that the valuable remarks which they had just heard, showed that the Society had done right in continuing this discussion, and that the subject had by no means been exhausted by the speakers at the last meeting. He thought the inquiry, whether Epilepsy predisposed to, or exempted from Puerperal Convulsions, novel, and important. In a disease which was so comparatively rare, as to have occurred only thirty times amongst sixteen thousand four hundred and fourteen women, during Dr. Collins's Mastership at the Dublin Lying-in Hospital, or about once in 548 labours, the question could not be fairly answered by appeals to individual testimony. Dr. Tyler Smith had, therefore, done good service in collecting those units of personal experience, from the accumulation of which, the connexion between the two diseases might be proved or disproved. As he (Mr. Streeter) had never had a case of genuine Puerperal Convulsions in his own practice, his experience had been limited to a very few cases which he had seen

in that of others. In those, he was not aware of their having had any previous Epilepsy, while he had certainly known Epilepsy occurring during gestation, and causing sanguineous infiltration of the labium, not followed by Puerperal Convulsions during that or a succeeding labour. In another instance, Epilepsy occurred after marriage, but neither the first nor succeeding labours were attended with Convulsions.

In considering the next question proposed, viz. the influence of marriage, he thought the scientific inquiry ought not to be limited to its influence over the female, but extended to its effects on her own children, and those of their offspring. For it most certainly happened, that family resemblances reappeared after one generation; and what was true of the face, most likely existed with respect to internal predispositions and peculiarities. Much happiness would arise, and much grief and disappointment be avoided, by a more strict obedience to those laws of breeding which the Creator had appointed. They were diligently studied and carefully enforced among hordes and the lower animals, but he feared that during "negotiations for hymeneal alliances", medical opinion was rarely sought for any other purpose, than that of finding reasons for justifying the inclinations of the contracting parties. One general rule, however, might be safely applied to the case of Epilepsy, viz. that of avoiding a similar defect or tendency in the parents.

While speaking of the similarity of Epilepsy and Puerperal Convulsions, he observed that the term Epilepsy was applied far too loosely to every convulsive movement attended with insensibility. He thought it should be restricted to convulsive attacks implicating, not only the general muscles, but those of the face, tongue, the larynx, and the respiratory organs. Puerperal Convulsions seemed to him most nearly allied to those fierce attacks of acute Epilepsy which occurred but once or so during childhood. The frequency with which vegetable poisons produced convulsions, led him to favour the toxæmic or humoral theory of Puerperal Epilepsy, rather than the osteophytic or solidist causation brought before their notice by Dr. Cormack, who also regarded it as a much rarer cause of Puerperal Convulsions than toxæmia. At the same time, he must say, that both the toxæmia and osteophyte were to his mind only predisposing causes; the immediate cause was the irritation of the nerves of the lower segment of the uterus—those supplying the os and cervix, which are exposed to injurious pressure, and the irritation of distention, at the commencement and during the progress of labour. In practice, he had always endeavoured to relieve this, where the dilating stage was attended with more than usual suffering, by gently pressing back the head at the termination of each pain. This freeing the parts from continuous pressure between the pains often gave great relief, especially where the uterus was low down in the pelvis in the early stages. The very great proportion of cases in which Puerperal Convulsions occurred in first pregnancies and in unmarried women must not be overlooked, for it showed that there was something more than physical irritation, whether excentric, osteophytic, or toxæmic;—that additional cause was the centric one of mental emotion. Mr. Streeter concluded, by dwelling on the importance of keeping in view the centric and excentric causes of convulsive diseases, and the mutual influence which these causes exert over each other. He exhibited a tabular view of the data furnished by an analysis of 144 cases of Puerperal Convulsions, which he published eight years ago.[1]

Mr. Wing, after acknowledging Dr. Tyler Smith's valuable paper, expressed himself as having been deeply interested in Dr. Cormack's important observations upon a former occasion, as well as upon the present, respecting the relation between the condition of the urinary organs, and their secretion, in Epilepsy, and in connexion with Convulsions in first labours. Mr. Wing had attended, some years since, two cases of Puerperal Convulsions, in which

[1] Moreau's Icones Obstetricæ. London: Baillière. 1842.

retention of urine was present. It was drawn off, the other symptoms attended to, and both patients did well. In Dr. Burrows' excellent work on Insanity, it is said, that persons predisposed to Epilepsy have peculiarly prominent eyes, arising from the great fulness of the blood-vessels supplying those organs ; and that it is so marked a diagnostic, that it is designated the "epileptic eye." It is accompanied with a peculiar glaze over it, as in mania, and which it is necessary to observe, to prevent any confusion in distinguishing it from the large convex eye of near-sighted persons. Dr. Smith's paper had elicited from Dr. Cape a most interesting case of epileptic fits, as having occurred in the night only ; and which had involved parental honour, and a child's matrimonial prospects and happiness in life. A young lady, unconscious of her nightly attacks, entered into the marriage state ; and, on the nuptial night, an epileptic fit took place, which gave rise to distressing explanations,—the parents avowing their entire ignorance of the previous existence of their child's affliction. Mr. Wing could readily feel disposed to exonerate both the parents and their child, from the experience which he had had in Epilepsy. In one confirmed case, of an adult, which he attended during nine weeks, in a private asylum, though he was frequently seized with paroxysms during the night, there was but one attack (to Mr. Wing's knowledge) during the day, and it arose only from an accidental source of irritation. In reply to interrogatories from time to time, the patient denied being cognizant of his epileptic seizures.

Mr. W. F. Barlow rose to remind the Society, that it was not the general subject of Epilepsy that was before them, but certain definite propositions. If Fellows did not confine themselves to the subject of Dr. Smith's paper, the discussion would become desultory and endless.

Dr. James Bird had listened with much interest to Dr. Cormack's observations, especially to those which referred to toxæmic Puerperal Convulsions. He apprehended that toxæmia was the cause of those epileptic attacks which, according to Mr. Druitt's experience, so frequently happened among those who drunk beer to excess. As to the influence which habits of beer-drinking might have in producing convulsions, he could not speak from his own experience ; though he possessed many facts to show that habits of spirit-drinking were very influential in producing them in connexion with attacks of delirium tremens. He thought that the pathological relation, character, and origin, of the epileptiform varieties of this disease, were calculated to throw some light both on the analogies and differences of Puerperal and other Convulsions. Out of seventy cases of delirium tremens, which he had seen from 1835 to 1840, six were attended by epileptic seizures, which in five instances proved fatal. Of these five, three terminated in death by asphyxia, and two by coma. Of the asphyxiated cases, two were accompanied, during life, by almost complete suppression of urine, and were fatal from toxæmia; the other was associated with endocarditis and fatty degeneration of the heart, as revealed by the necroscopic examination of the body. The two cases of coma terminated by the copious effusion of bloody serum into the ventricles and substance of the brain ; which effusion was accompanied, in one of them, by great hypertrophy of the dura mater. Now, the *eclampsia* and state of coma in the latter were more nearly allied than in the other, to apoplexy and Epilepsy proceeding from irritation and hyperæmia in the nervous centres; whereas the cerebral congestion, which followed the cardiac and pulmonary congestion, with attendant convulsions of the latter, were results of peripheral irritation of the extremities of the sentient and motor nerves, in connexion with the spinal marrow, as is usual in cases of Puerperal Convulsions. In such cases, the irritation is peripheral, and the convulsions reflex, giving them a characteristic difference from those of pure Epilepsy, where the hyperæsthesia, or exalted sensibility, is centric in the brain or medulla oblongata, and irradiates on the motor nerves so as to produce convulsions. No essential distinction of the two diseases can be made out

from any difference of symptoms; but the marked pathological distinction between Epilepsy generally and Puerperal Convulsions, is that the former has its origin in irritation and exalted sensibility of the brain as a nervous centre, the latter in a like state of the peripheries of the nerves and spinal marrow. Epilepsy and epileptic delirium tremens are frequently the result of toxæmia: but Puerperal Convulsions do not usually claim this origin. Epilepsy and delirium tremens proceed generally from centric, but the latter from peripheral nervous irritation. Epilepsy may be therefore regarded as a state of psychical hyperæsthesia of the nervous centres; Puerperal Convulsions as hyperæsthesia of the peripheries of the nerves; and, as this exalted sensibility, in either kind of convulsion, may be conjoined with a state of hyperæmia or with an opposite state of anæmia, the treatment required must necessarily be very different in those two opposite conditions.

Dr. Snow said, that the cases of Puerperal Convulsions which he had seen, bore a much closer resemblance to the convulsions which occurred in certain cases of renal disease, than they did to ordinary Epilepsy; and he agreed with the opinion expressed by Dr. Cormack, in his paper on this subject, last session, that the greater number of cases of convulsion occurring in the Puerperal state, were caused by congestion of the kidneys, and the consequent detention of the urinary salts in the blood. He was ready to admit, however, that a few cases might depend on peripheral irritation of the nerves, as alleged.

Dr. Routh believed that the cause of most Puerperal Convulsions was toxæmia from renal disease. Renal disease was very common in England, and more particularly among the lower classes: in Vienna it was rare. He had noted, during his residence at Vienna, that out of about 3,000 cases of labour, there were only two cases of Convulsions. He also concurred with Dr. Cormack in believing, that the greater frequency of Puerperal Convulsions in primiparæ, was to be explained by the backward pressure of the uterine tumour upon the kidneys, through the greater rigidity of the abdominal parietes. *A priori*, we might expect a patient affected with Bright's disease to have Puerperal Convulsions, even though the renal disease was slight. He thought that the etiology of Puerperal Convulsions could only be made out by an examination of the urine—not merely during labour, when it was almost always albuminous, but likewise before, and after. If the Epilepsy, under which a patient laboured before pregnancy, was due only to ovarian excitement, *à priori*, we ought not to expect Convulsions during labour.

Dr. Scott Alison would like to know from Mr. Streeter, Dr. Routh, or from any Fellow, whether there was evidence on record, which could be produced, to show that, in cases of what was commonly understood by the term Epilepsy, the kidney was affected? Epilepsy was, in his opinion, generally an hereditary disease.

Dr. Webster said that he was acquainted with the principal statistical facts regarding about four thousand cases of Epilepsy and mania; and with regard to hereditary transmission, there was this remarkable difference:—that the male parent was more apt to transmit Epilepsy, and the female, mania. As to the state of the kidney, he could say nothing, as many of the patients referred to were still living.

Dr. Scott Alison. The point may be very often settled, even as regards living patients.

Dr. Webster assented.

Dr. Tyler Smith could sincerely assure the Society, that the cases he had related in his paper, were not selected with a view to support any particular opinion; he had by no means sought for instances of ovarian Epilepsy, followed by pregnancy, but had, with the strictest impartiality, included all which had come within his knowledge. He had listened with much interest to the observations of Dr. Cormack on the osteophytes

of Rokitansky; but he could not consider them to be very powerful as a local cause of Puerperal Convulsions, because of their regular and uniform appearance during gestation and the Puerperal state. Their study would, however, be most interesting in relation to the condition of the blood during pregnancy; particularly when it was considered, that during the two great convulsive epochs,—those of dentition, and gestation,—the economy was busily engaged in applying phosphatic salts to the formation of teeth and the consolidation of the osseous tissues, in the one case, and to the organization of the bones of the fœtus, in the other. Future observation might give to the state of the blood, which obtains during the progress of ossification, a considerable share in producing that erethismus of the nervous system, through which Convulsions were readily excited. Undoubtedly, as Dr. Cormack had said, experiments proved that irritation of the intra-cranial nerves might produce excentric Convulsions; and in some cases of Epilepsy, this was evidently a cause of the Convulsions; but he regarded the thickening of the calvarium and skull, so generally met with in the post-mortem examinations of old epileptics and insane patients, as a consequence, rather than a cause, of the paroxysmal disease; and as produced by the frequent congestions of the cerebral and cranial vessels during the attacks, and even in the intervals. He admitted the importance of the effects of the pressure of the gravid womb upon the renal vessels, and the impediment to the full depuration of the blood by the kidneys, which this occasioned; but he did not quite admit it, to the extent contended for by Dr. Cormack. Something more was required, some local irritation of a severe kind, otherwise Convulsions would be as common during gestation, as at the time of parturition; and they would rarely occur, as Puerperal Convulsions often did, after all abdominal pressure had been removed by delivery. In the case of La Motte, he could scarcely allow that the abdominal pressure was the cause of the Convulsions during the pregnancies with male children: some other explanation must be looked for. As regarded pressure upon the abdominal vessels, the difference between a male and female child, during gestation, was almost infinitesimal; but the difference was greater, when the fœtal head came to pass through the bony pelvis and rigid parturient passages of a primiparous woman. Not only the greater size, but the more perfect ossification of the head of the male fœtus, increased the irritation produced by its transit, to a very considerable degree. To this increased irritation during delivery, in cases of male children in primiparæ, he felt obliged to refer the greater frequency of Puerperal Convulsions in such labours. He said this, with a full consciousness of the importance of the state of the blood in causing the tendency to the disease. In reply to the excellent observations which had fallen from Mr. Streeter, respecting marriage in Epilepsy, he would say, that he had merely mentioned the fact, that in certain cases, Epilepsy was relieved, and in others suspended altogether, by marriage and child-bearing; and he had drawn the obvious inference, that marriage was not so much to be dreaded as might be imagined. But he had by no means intended to recommend marriage to female epileptics, fully conscious as he was of the responsibility of an epileptic female, not only as regards herself and her husband, but also her posterity. The facts relating to the matter were, however, valuable, particularly as we were too seldom consulted by persons in matters which concerned the passions and inclinations, except to remedy mischiefs already committed. With this explanation, he quite agreed with the views of Mr. Streeter on the moral point. Dr. Snow had compared renal Epilepsy with Puerperal Convulsions, and the same comparison had been made by Dr. Routh, in the inferences he had drawn from the rarity of Puerperal Convulsions and of albuminuria in the great hospitals of Vienna. He would admit, that the Puerperal Convulsion more nearly resembled the Convulsion which occurred in the course of renal disease, from the impure state of the blood, than any other form of Convulsion. But even here, there were important differences. In the cases he had

seen, the convulsions were not so severe in the renal, as in the puerperal variety. In renal disease, the convulsion generally occurred in the latter stages of the disease, when death was imminent, whereas the Puerperal Convulsion was less frequently followed by death. In albuminuria, urea was present in the blood, in large quantity; in Puerperal Convulsions, it was not. A writer in the *British and Foreign Medico-Chir. Review* for October, evidently speaking from experience, had stated, that cases of Bright's disease, on becoming pregnant, had not been affected with Puerperal Convulsions. This was highly important, as it appeared to indicate the distinctness of the two diseases. Dr. Routh's observation of the infrequency of Puerperal Convulsion in Vienna, was directly confirmatory of the facts he had detailed in his paper; as no doubt Epilepsy was a frequent disease in that city. Mr. Druitt had contributed an interesting fact to the pathology of Puerperal Convulsions, one which was especially interesting, as convulsive affections were sometimes present in cases of scurvy, apart from pregnancy. Probably these cases formed a distinct variety of Puerperal Convulsions. He agreed with his friend, Mr. Barlow, whose knowledge of the diseases of the nervous system gave value to his criticism, that one could not say, that the form of the convulsion, the spasmodic action, was different in the Puerperal Convulsion, as compared with the Epileptic Convulsion. Still he thought a distinction between the two should be preserved. As regards mere symptoms, we could not well separate the Convulsions of dentition, from the Epilepsy of the adult; yet every one recognized the distinctness of the two diseases. So, with regard to the argument of Dr. Willshire, if we went to the ultimate phenomena observed in Convulsions, and grouped together all diseases in which the effects or essences were the same, however different their causes, we must call by the same name, chorea, stammering, epilepsy, tetanus, and hydrophobia: for in all, morbid contraction of the external muscles was the essential phenomenon. This, as far as he understood it, met the objection of Dr. Willshire. Such a plan would be obviously inconvenient. For practical purposes, it was necessary to study dissimilarities as well as similarities, diversities as well as analogies. If he had referred to these points, he should have agreed with Dr. Webster and Dr. Cape, respecting the times of the apoplectic seizures. Epilepsy, when aggravated by the catamenial periods, generally appeared before the actual setting in of the menstrual flow. The occurrence of Epilepsy during sleep had been noticed from the earliest times; the act of falling into, and waking out of, sleep, frequently induced a fit in persons liable to convulsions. The relations between the congestion of sleep and the epileptic seizure had been elucidated, in a clear manner, in the papers of Dr. Marshall Hall, in the *Lancet*, which were certainly the most important contributions which had yet been made to our knowledge of convulsive affections, particularly in relation to the connexion between hidden paroxysmal seizures, and paralysis, and mania. He had himself been recently asked his opinion, respecting a lady who had been found in an epileptic fit, by her husband, while lying at his side. In this lady, it was probable that many undetected seizures had previously occurred. He remembered once attending a child, in ailing health, in whom nothing very remarkable had been observed, until one morning, on entering the room where the child was in bed, he lifted the coverlet, and found it in a strong convulsion, which would, however, have been over in a few minutes unobserved, and have left no sign. He had no doubt whatever, that in many cases of children found dead in bed with their nurses, where the infant was thought to be overlain, death had been caused by a convulsion unnoticed by the nurse or mother. Dr. Barnes's question had not surprised him; no doubt it was pertinent, and he should have referred to it in his paper, but for the desire to avoid controversial points as much as possible. In his work on *Parturition*, he had given what he considered were the proofs that the coming-on of labour was caused by ovarian excitement. To these

proofs he would refer those who were interested in the subject, and which, he would say, were confirmed by subsequent observation and experience. In the case of Epilepsy and pregnancy, with remission of the fits, he did not think it extraordinary that the ovarian excitement at the time of parturition, should, in many cases, not reproduce the fits; for it was matter of observation that, after the respite of pregnancy, several catamenial periods occurred before the Epilepsy was re-established; it was only gradually that the erethismus of the nervous system, upon which Epilepsy depended, was induced. He now came to the objections urged by Dr. Henry Bennet. In saying that, in female epileptics, the fits were frequently aggravated by the catamenial periods, and that, in some cases, they were limited to these periods, appearing at no other times, he had merely repeated a remark which had been made again and again by observers of Epilepsy, and for the correctness of which he was sure he could appeal to the experience of every Fellow of the Society. But Dr. Bennet thought differently, because he had not seen Epilepsy in cases of uterine disease. Neither had he (Dr. Tyler Smith), nor had he spoken of uterine disease at all in the sense meant by Dr. Bennet. It was well known to those conversant with the physiology and pathology of the nervous system and the spinal cord, that apparently slight irritations produced graver results than more serious lesions. For instance, tickling the fauces produced vomiting, while this might not occur in deep ulceration of the throat; an indigestible meal frequently produced a fit of epilepsy, but this did not happen from cancer in the stomach; tetanus, too, arose from wounds of the thumb, but not from some of the most grave injuries of more important parts; so also, in the case of the uterus and ovaria, severe uterine disease, or malignant disease of the ovary, seldom, if ever, caused Epilepsy, while slight ovario-uterine irritation, such as could not be recognized either by touch or speculum, as, for instance, that accompanying the catamenial periods, did most certainly excite epileptic attacks. Thus the observations of Dr. Bennet did not in any way apply to the facts of the paper which had been read. Nor was there more force in his reference to the epileptics of the Salpetrière, as these cases were incurables, probably with disease of the nervous centres: they were certainly not like the cases commonly met with in private practice in this country. One other point he would refer to, namely, the question, whether or not Epilepsy succeeded Puerperal Convulsions? He had not himself seen or heard of any cases of this kind, but Dr. Routh had named two, in which, he had little doubt, cerebral effusion had occurred during the puerperal attacks, thus giving rise to centric Epilepsy. Dr. Robert Lee, whose observations were most valuable, had mentioned another case which he had considered to be of this kind, but he (Dr. Smith) had written to Dr. Marshall Hall, under whose care this patient had been placed, and, in his reply, had been informed that Dr. Hall did not consider that case as one of ordinary Puerperal Convulsion. "It occurred three weeks after delivery, and was coincident (within four-and-twenty hours) with paralysis of the left arm and leg, and 'white swelling' of the leg. I imagine that connected with phlebitis and pure cerebral Epilepsy from the beginning." Dr. Tyler Smith, in conclusion, while thanking the Society for the kind reception which had been given to his communication, and for the valuable facts which had been elicited in the course of the discussion, was gratified that the two most important points, namely, that, in the majority of cases, epileptic seizures were more rare during gestation than at other times;—and that epileptics were rarely affected with Puerperal Convulsions,—had not been questioned, but, on the contrary, had received additional confirmation. The cases he had related, would probably be published hereafter in detail, with others of great interest which he had since received, but which at that late hour he would not read to the Society, though he should have felt bound to do so, had they been at variance with those he had already cited in his paper.

December 22, 1849.

Francis Hird, Esq., President, in the Chair.

A Calcareous Concretion, the result of Tubercle, in the apex of a left lung, was exhibited by Mr. Haynes Walton. There was no other appearance of tubercle in either lung.

Cases of Hernia: with Remarks. By J. E. Erichsen, Esq. The author related four cases of Hernia, which had come under his notice during the past year. Each of them presented some peculiarities.

Case i. W. J., aged 20, was admitted into University College Hospital, in September last. He has always felt the scrotum to be larger on the left side; and nine months ago he perceived a tumour in the left groin, but had never worn a truss. On the day before admission, he had pain in the abdomen, and vomiting; for which he was treated, by a surgeon, as for Cholera. He was admitted on the 8th, when there was vomiting and abdominal tenderness. On examination, there was found to be a round, soft, fluctuating tumour in the scrotum, extending into a neck in the inguinal canal. The testis could be felt; and pain was produced by pressure on the lower and posterior part of the tumour. On his being placed in a warm bath, the swelling was somewhat diminished in size by pressure, but soon returned. As to the nature of the case, it might be acute hydrocele, or encysted hydrocele of the cord, with effusion into the tunica vaginalis; or it might be Hernia, with hydrocele in the tunica vaginalis. The last of these suppositions alone seemed admissible. The operation was proceeded with in the usual way. Half a pint of serum escaped from the tunica vaginalis, on being opened; and a knuckle of intestine was found, which, after the division of the stricture, and of some dense adhesions, was reduced. The patient had a rather severe attack of peritonitis, from which he recovered, but afterwards had to be treated for an abscess in the prostate. The points worthy of remark in this case, were: 1, the pyriform shape of the swelling; 2, its softness; 3, its partial emptying, under pressure, in the warm bath; and 4, that the testis was felt unsurrounded by bowel, which was two inches from it.

Case ii. This was a case of strangulated oblique inguinal Hernia of the right side, remarkable for the unusual situation of the stricture. The patient was aged 20, and the Hernia was said to have been congenital; the testis, however, could be felt below it. He had not worn a truss. On admission, he was labouring under symptoms of peritonitis. On operating, no fluid was found in the sac; but there was a large piece of red, congested omentum, not thickened, nor unhealthy, with a coil of intestine at the inner side. The stricture appeared to be situated at the external ring, and was divided. The attempt, however, to return the intestine was unsuccessful; nor was there any gurgling produced. On further search there was found, at a point corresponding with the internal abdominal ring, a narrow band of fibres, stretching from the omentum to the mesentery, not connected with the sac. The intestine, above this point, was much congested; below, it was natural. The cause of the strangulation was now evident. When the band was removed, the intestine passed up. The patient died of peritonitis on the following day. Mr. Erichsen remarked that, had the omentum not been held down during the operation, while the intestine was being returned, the whole would have gone back together, without relief to the patient. He considered this as a case of internal strangulation in an incarcerated Hernia.

Case iii was one of strangulated femoral Hernia on the right side, in a female, aged 45. The apparent stricture at Gimbernat's ligament was divided without success. The sac, which had not been opened, was then pulled down, and found to be constricted by a fibro-cellular band at the bottom of a deep sulcus, giving an hour-glass form to the tumour. This was divided, and the intestine readily slipped back. This was a case bearing on the ques-

tion of the subcutaneous incision of Gimbernat's ligament. It was one of those cases, where the stricture is formed by fibres on or within the sac.

Case iv was one of large hydrocele of the hernial sac. The patient had had inguinal Hernia on the right side for twenty years, which some time ago increased rapidly in size. The tumour was found elongated and pyriform; at the upper part of it, intestine and omentum were felt, of which the former alone could be returned. Below, there was a large, soft, fluctuating tumour, of the size of a cocoa-nut, thick, and not translucent. Its upper boundary was not distinct; posteriorly and inferiorly, the testes could be readily felt, of the natural size. There was a central horizontal construction, with Hernia above, and hydrocele below; the latter becoming tense when the Hernia was down. Mr. Erichsen considered this to be an accumulation of fluid in the hernial sac; and in this diagnosis the late Mr. Morton agreed. The hernia was reduced by taxis; and, the tumour being made tense, a trocar was introduced, when about three ounces of fluid escaped. Mr. Erichsen then introduced a probe into the canula, and met with a dense membrane. This was punctured, or rather bored through, when three pints of a dark fluid escaped. The patient recovered. This was a case of very rare occurrence; and was not to be confounded with accumulations of fluid in strangulated Herniæ, nor with cases in which there was still a connexion between the hernial sac and the abdominal cavity. In this case, the irreducible omentum formed the upper boundary of the hydrocele.

In conclusion, Mr. Erichsen remarked, that as yet, no general rule can be laid down as to the performance or non-performance of Petit's operation, by not opening the sac. The good and bad effects have to be balanced; and, till this is done, he did not think Petit's operation will be universally adopted.

Mr. Gay thought that Petit's operation was valuable in some cases. We should operate according to the nature of the case; and if we could do this without opening the sac, we might. He related a case in which Hernia and hydrocele co-existed: the hydrocele was tapped, and the Hernia, which had produced symptoms of strangulation, became reducible with very little trouble. The symptoms, however, continued as severe as ever, for three days, notwithstanding the use of calomel, opium, etc. Mr. Gay then cut down again, and found a dense contraction of the tunica vaginalis strangulating the Hernia, which had been congenital. The patient recovered. He thought that, in cases of Hernia which had been reducible, the operation might be performed without opening the sac; but that, in irreducible Herniæ, it should always be opened. He thought that the coincident occurrence of strangulation at the neck of, as well as within the sac, in one of Mr. Erichsen's cases, was curious. In a case of umbilical Hernia which he had seen, it was apparently reduced, but without relief. On examination, it was found that the intestine had passed through an aperture in a portion of omentum, and had become strangulated. The patient died, being old and unhealthy.

Mr. Borlase Childs thought Mr Erichsen's second case interesting, as it presented an irregularity in the seat of the stricture. He had met with a case, in which no sign of Hernia could be discovered, except a slight fulness of the inguinal canal. When this was divided, a large knuckle of intestine was found to have been strangulated by it.

Mr. Hancock did not think Mr. Gay's division of reducible and irreducible, and the rule founded thereon, to be applicable. He expressed himself unfavourable to the performance of the operation without opening the sac; and could not see the utility of giving calomel immediately after the operation. Opium he thought valuable. He was doubtful whether Mr. Erichsen's last case was not one of simple hydrocele co-existing with Hernia.

Mr. Gay remarked, with reference to the danger of opening the sac, that

wounds of the peritoneum principally derived their danger, from the circumstance of the patient labouring under disease of some important organ.

Mr. Erichsen, in reply, said he had given calomel and opium in one case immediately after the operation, because peritonitis had already set in. He thought opium most valuable when given alone, in tranquillizing the patient. The late Mr. Liston was for some time very unsuccessful in his cases of Hernia, because he used to give a dose of sulphate of magnesia directly after the operation. He agreed with Mr. Hancock in his criticism of Mr. Gay's division of cases into reducible and irreducible; and he thought that he would perhaps rather not open the sac in irreducible Herniæ. As to the incisions in the sac causing peritonitis, he thought this often present before the operation. He thought that the rules laid down in books were rather the exceptions; and that surgeons would do well to contribute records of those cases which appeared exceptional.

MISCELLANEOUS INTELLIGENCE.

The Medical Societies of London. The Westminster Society is at present in greatest favour; as is indicated by the extraordinary increase in the number of Fellows, the overflowing attendance at the meetings, the value of the papers, and the vigour of the discussions. The number of Fellows admitted since January 1st, 1849, is about fifty, whereas the entries at the Medico-Chirurgical are only about twenty-six during the same period. This is much to be regretted, as it is only by an infusion of fresh blood that the latter institution can be reanimated. Considering the value of the Library and the Reading-room, no member of the profession can fail to be a great gainer by becoming a Fellow of the Royal Medical and Chirurgical Society. It is said that the question of amalgamation between the London Medical Society and the Westminster Medical Society has been mooted. The inconvenient situation of the former—in Bolt-court—is much complained of; but there exist legal difficulties in the way of a removal, unless the Society entirely relinquish the property. We really think that there is abundant scope for the three public societies we have named; and the sphere will be all the wider, that they remain in their present localities. We can only see a disadvantage in having the leading medical societies crowded together at the West-end, as some desire.

Therapeutics are at present a neglected branch of medicine; and were the London Medical Society to cultivate with method and earnestness this department of our science, the meetings in Bolt-court would soon be thronged, candidates for admission would abound, and a great advantage be conferred on the profession. Besides the three societies whose names we have mentioned, there exist in London many others of great importance, but of a more local character. Pre-eminent among this class, may be mentioned the Western Medical and Surgical Society, whose meetings are held in Sloane-street, where also there is, belonging to the Society, a well-stocked reading-room open daily, and an increasing library. The importance of establishing good medical libraries and reading-rooms in the different quarters of our immense capital, is so great and obvious, and some of the means by which it might be aided are so easy and inexpensive, that we intend in a future number to throw out a few hints on the subject.

Edinburgh School of Medicine. The lecturers who do not belong to the University have of late greatly diminished in numbers, but there is still a complete school, and some of the teachers are eminent. The High School Yard, Surgeon Square, Argyle Square, and Brown Square—replete with associations of student-life to thousands of our profession—are fairly abandoned by the votaries of Æsculapius, in consequence of the private lecturers having collectively erected for their use, a commodious building behind the College

of Surgeons in Nicholson Street. The precise constitution of the school is not as yet announced, but there can be no doubt of its being under the wing of the College of Surgeons. The University Medical School is not less active than its unendowed rival, having demanded (and, we hear, with the probability of obtaining) such an ascendancy in the management of the Infirmary, as will give the professors a clinical hospital, complete for medicine, surgery, and midwifery, with extra wards for such specialities as diseases of the skin, syphilis, and affections of the eye. The benefits of this arrangement, so far as medical teaching is concerned, are obvious ; and the shelving of that part of the profession in Edinburgh, who do not aspire to chairs in the University, but wish to be consulting physicians and operating surgeons, is dreaded by some, but by many is not believed to be inevitable. The *Monthly Journal of Medical Science* is in future to be more authoritatively devoted to "maintain and extend the influence which has been accorded to the Edinburgh School of Medicine"; and it is officially announced, that the work will in future be conducted by Professors Christison, Syme, Simpson, Goodsir, and Bennett; Dr. Douglas Maclagan, lecturer (extra) on Materia Medica ; and Dr. William Robertson, Physician to the Infirmary. These gentlemen have already been among the leading contributors to this valuable work. A new Quarterly Journal is announced by Messrs. Sutherland and Knox, under the editorship of Professor Goodsir, entitled *Annals of Anatomy and Physiology.* No. I. is to appear on the first of February.

Monument to Jenner. Steps are being taken to bring this subject before the profession ; and in addition to the Committee appointed by the Provincial Medical and Surgical Association, mentioned at p. 890 of our number for September 1849, a large and influential metropolitan committee has been formed, with branches in various parts of the kingdom.

Proposed New Charter of the College of Surgeons of England. We have been anxiously expecting some official explanation of the proposed alteration in the constitution of the College of Surgeons. But, beyond the general report, that members of twenty years' standing, in the possession of testimonials, and on the payment of ten guineas, would be added to the list of Fellows, no hint has reached us on this subject. It is clear, that nothing can now undo the act of the Council in office in 1843, short of an entire abandonment of the *principles* upon which the Charter was then granted. We are sincerely of opinion, that the present Council are anxious to conciliate the members at large by every means in their power, and we do not well see how they can do this more satisfactorily, than in the manner proposed. In extending the Fellowship, there must be some line drawn ; for, if all were included, it would be only substituting one name for another. Now, we think that age, coupled with respectability, as guaranteed by the signatures of six Fellows, is the best criterion which can be at present selected. There may be some hardship in requiring a fee of ten guineas ; but it would be still more hard to admit men of twenty years' standing now, without payment of a fee, after receiving ten guineas from men of even thirty years' standing and upwards, together with an examination, as has been hitherto the case. The proposed plan, if carried out, ought to be accepted as the *amende honorable ;* and if, in addition, the College of Surgeons should come forward, and by co-operating with the College of Physicians, should offer to the profession a Board of Examiners, which might form a common portal to the different departments of our art, we trust that all old grievances would be buried in oblivion, and that we should all exert ourselves in carrying out this measure. We trust that the College authorities will prevent the necessity for the formation of the projected College of General Practitioners, which can only act as a fresh element of discord in our already disorganized ranks. [Abridged from *Provincial Medical and Surgical Journal,* Dec. 26, 1849.]

APPOINTMENTS.

ALLAN, Dr. John, appointed Physician to the Islington Dispensary.

BRASSEUR, Professor, appointed Examiner in French to the Royal College of Surgeons of England.

CHAMBERS, Dr. A., elected Physician to the Dispensary for Consumption and Diseases of the Chest, Margaret Street.

DAMPIER, N. J., Esq., F.R.C.S., elected Surgeon to the Islington Dispensary, in the room of J. J. PARNELL, Esq., resigned.

HALE, Dr. R. J., appointed Physician to the Islington Dispensary.

HALL, C. Radclyffe, M.D., appointed Physician to the Bristol General Hospital, in the room of DR. BEATTY, resigned.

HAWKINS, Cæsar H., Esq., elected one of the Examiners at the Royal College of Surgeons, in the room of the late J. G. ANDREWS, Esq.

HOOPER, R. L., Esq., appointed Surgeon to the Queen's Prison, in the room of the late THOMAS MORTON, Esq.

SMITH, Goldwin, Esq., M.A., appointed Examiner in Classics to the Royal College of Surgeons of England.

STOKES, G. G., Esq., M.A., appointed Examiner in Mathematics to the Royal College of Surgeons.

OBITUARY.

BIRCH, John Spencer, Esq., Surgeon, at Blackburn, on 25th November 1849.

CARDEW, J., M.D., late Physician to the Bath General and United Hospitals, at Weymouth, on 25th November.

CARRUTHERS, Robert, M.D., Royal Navy, at Longfleet, near Poole, Dorset, on 27th November.

CASE, Thomas, Esq., Surgeon, of Runcorn, Cheshire, lately.

CHEESBROUGH, John, Esq., at North Egremont, Cheshire, lately.

DEAS, Dr., Surgeon-Superintendent of the Neptune convict ship, at the Cape of Good Hope, lately.

GAINE, E. L. J., Esq., Surgeon, H.E.I.C.S., at Waltair, East Indies, on 20th October.

GLENNIE, W. R., M.D., H.E.I.C.S., formerly of Maybank, Aberdeen, at Goruckpore, on 4th October.

GUNNING, Thomas, Esq., Inspector General, Army Medical Department, at Brompton Crescent, aged 74, on 30th November.

HEIR, Matthew, Esq., late Surgeon to the 66th Foot, at his residence, 16, Park Walk, Chelsea, aged 73, lately.

MALING, C., Esq., Surgeon, at Abbey Holme, Cumberland, of Cholera, aged 34, on 24th November.

MITCHELL, John, M.D., at Hobshill, Cruden, after a short illness, aged 55, on 22nd November.

MUNRO, Dr., Surgeon of H.M.S. Castor, lately.

ROBERTS, William, Esq., Surgeon, late of the 1st Royals, at Sydenham, Kent, aged 71, on 22nd November.

SHEFFIELD, Edmund, Esq., Surgeon, at 12, Grove, Hackney, aged 71, on 2nd December.

TRUEFITT, Louis, Esq., Surgeon, at Burwood Place, Hyde Park, on 3rd December.

WHITELAW, Thomas, Esq., Surgeon, Royal Artillery, at Barbadoes.

WORTHINGTON, Charles, Esq., Surgeon, at Llangollen, aged 73, on 1st December.

BOOKS RECEIVED.

Bacc. Med. Oxon. on Stammering and its Treatment. London: 1850. CHURCHILL (Dr. F.) on Diseases of Children. Dublin: 1850. FLOOD on the Arteries. Edited by DR. POWER. Dublin: 1850. HAMILTON'S Essays on Syphilis, Part I. Dublin: 1849. HULL on Consumption. London: 1850. SNOW on Pathology and Communication of Cholera. London: 1849. STEWART (DR. A. P.), Sanitary Economics. London: 1849. SYME on Medical Reform. Edinburgh: 1849. WARE on the Duties and Qualifications of Physicians. Oxford: 1849. WINSLOW on Cholera. Traduite en Français par E. COLMACHE. Paris: 1849.